MASS. AGRICULTURAL COLLEGE

THE AMERICAN BEE JOURNAL

DEVOTED EXCLUSIVELY TO BEE CULTURE

Established in 1861, at Washington, by the late Samuel Wagner.

SWARMING.

"Upward they rise, a dark continuous cloud,
Of congregated myriads numberless;
The rushing of whose wings is as a sound
Plunged from a mountain summit, or a roar
Of a broad river headlong in its course,
Shattering its billows on a shore of rocks."

SOUTHEY.

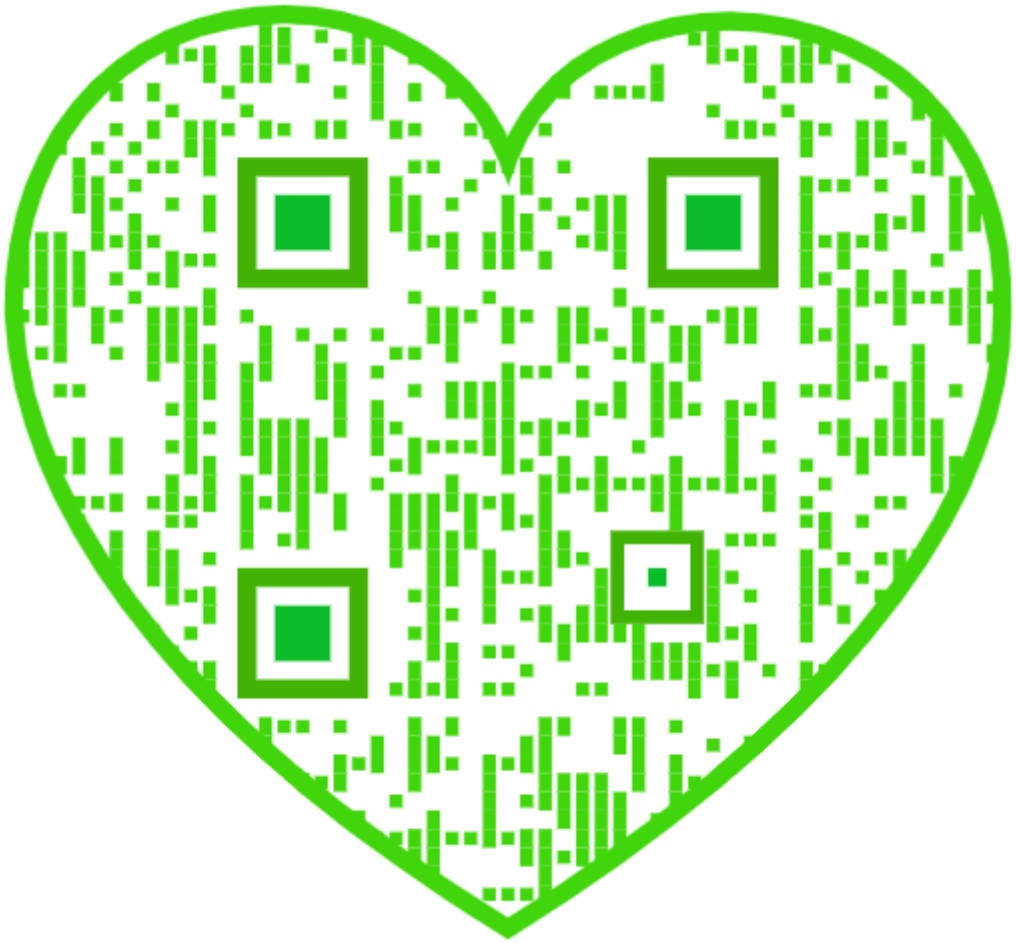
VOLUME XVI--1880.

CHICAGO ILL.:

973 and 974 West Madison St.

THOMAS G. NEWMAN, Editor,
AL. H. NEWMAN, Business Manager

THOMAS G. NEWMAN AND SON,
PUBLISHERS.



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Rocky Mountain Bee Plant (Cleome Integrifolia).

MASS. AGRICULTURAL COLLEGE

THE AMERICAN

BEE JOURNAL

Devoted Exclusively to Bee Culture.

Vol. XVI. CHICAGO, ILLINOIS, JANUARY, 1880. No. 1.

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Editor's Table.

☞ "No place like comb," as the bee said to the honey.

☞ The Editor expects to attend the Indiana State Convention at Indianapolis, on Tuesday, the 13th inst.

☞ We have added a few extra pages to this number of the JOURNAL, for the purpose of giving our Illustrated Catalogue of Implements for the Apiary, with prices for 1880.

☞ In a letter from Glasgow, Scotland, dated Dec. 5th, 1879, Mr. John D. Hutchinson remarks that "the thermometer stands one degree below zero." They are having very cold weather and lots of snow in Great Britain.

☞ Mr. W. M. Kellogg, Secretary of the Western Ill. and Eastern Iowa Bee-Keepers' Society, gives us the following as the united report of 12 members for the past season: "No. of colonies last spring, 855; in the fall, 1051: comb honey, 11,311 lbs.; extracted, 3,924 lbs.; wax, 178½ lbs.; average lbs. of honey for each, 1,269½; ditto of wax, 15. All unite in the opinion that the season was the poorest for years."

☞ The bee-keepers of Cortland Co., N. Y., had a preliminary meeting Dec. 2d, and adjourned to Feb. 3d, for the purpose of perfecting a county organization; all the bee-keepers of that section are requested to attend

New Year's Greeting.

The year 1879, with all its joys and sorrows, pleasures and pains, toils and troubles, has passed away, and we now enter upon the new year, 1880, the beginning of another decade of years. How rapidly the days and months and years pass alone in the sweeping tide of time! The "fleeting shadows" warn us of our approaching end, and bid us to be ready for it. Meanwhile to us is appointed the strife and peril of warfare—battling for the right, waging war on the errors of the past, and doing our share in erecting the temple to be dedicated to truth, honesty, justice and progress. If we shall do our work faithfully and well, we may expect the welcome applaudit of "Well Done"! Our co-workers in "the ages to come" will sit in judgment over our labors, and their verdict, shorn of all the prejudices of the present time, will be based upon the just merits of the case. Let our work, then, be done faithfully and well, and with reference to the ever-advancing principles of progressive thought and action.

The BEE JOURNAL, during the past year has endeavored to act fearlessly as well as faithfully—never losing sight of of the interests of *producers* as well as consumers. The past must be the guarantee for the future, and if the reader thinks it has done aught for his or her benefit, let the "vote of confidence" be given in the shape of continued exertions for its prosperity. The "case" is now all "summed up" and the reader, is one of the "jury," whose verdict, given in language that is unmistakable, will determine its future.

Our thanks are due to the many thousands who have continuously supported the BEE JOURNAL for years, and we can assure all such that we shall spare no pains nor expense to make it still more interesting and instructive for 1880. We are greatly encouraged by the many who have during the past month renewed their subscription, and yet this is but "the promise of the shower" that is to come during this month. But *still more encouraging* have been the unanimous expressions of confidence and approval that have accompanied these renewals.

We have girded on anew the armor for the contests of 1880, and while making our bow, let us wish one and all of our subscribers.

"A HAPPY NEW YEAR!"

☞ The past season has been one of marked prosperity to the country. The bountiful harvest coupled with the failure of the crops in Europe has greatly, increased our prosperity and wealth, as well as introduced a decade of "good times." It is true that the honey harvest was light, but with the advance in prices for honey we have but little to complain of, and have considerable cause to take courage. At the Mich. Convention held last month, Mr. Heddon said "we may look for good prices for honey raised during 1880." Somehow or other we also have such an "abiding faith" and confidently expect a good yield of honey and good prices, next season, for the practical and progressive apiarist.

☞ Mr. Frank Benton, is about to start for Cyprus with Mr. D. A. Jones, of Canada, to rear and ship Cyprian queens to America; but before starting he has taken an American "Queen" to his bosom. He was married to Miss Hattie Wheeler, of Angelica, N. Y., on the 17th ult. The BEE JOURNAL extends its complements, and wishes "the happy pair" continued prosperity. We suppose the journey to Cyprus is the "wedding tour."

☞ Capt. W. J. Andrews, ex-president of the North American Bee-Keepers' Society, was re-elected last month as an Alderman for the City of Columbia, Tenn., and gave a Banquet on Nov. 17th in honor of his re-election. This we glean from the Nashville, Tenn., daily papers.

Apis Americana—the Coming Bee.

No matter whether we anxiously watch for "the next progressive step" or earnestly desire to discover "the Bee of the Future"—the "finger of destiny" points directly to *apis Americana* as the bee that will "fill the bill" of all our expectations. On our late visit to Europe, we took some small bottles containing drones and workers from the apiary of the BEE JOURNAL—not to "astonish the natives," nor to arouse the jealousy of those of foreign climes—but to get a frank and free expression of opinion concerning them from some of the best apiarist of the world. We accordingly exhibited them in England and Scotland, and with one accord they were pronounced by the principal apiarists there as the most beautiful they had ever seen.

We exhibited them to Mons. Dennler, editor of the *Alsacian Bienen Zuechter*; to Mons. Ed. Bertrand, editor of the *Bulletin D'Apiculteur*, of Switzerland. Both of these gentlemen were delighted with them, and said they had never seen their equal.

At Bologna, Italy, we submitted the bees to Signor Pietro Pilati and Signor Lucio Paglia, two extensive breeders of Italian bees for importing to America, England, Germany, &c., and both were enthusiastic in their praise.

At Milan, Italy, we exhibited them to Count Gaetano Barbo, President of the "Central Societie d'Apicoltore," and Count Alfonso Visconti de Saliceto, editor of *L'Apicoltore*, the Italian bee paper, and they expressed their admiration of them. Since we were there, however, the number of *L'Apicoltore* for October has been received at this office and we quote as follows:

We have had a visit from Signor Newman, editor of the AMERICAN BEE JOURNAL, and President of the North American Bee-Keepers' Society, who has been especially invited to attend the Austro-German Congress at Prague, Sept. 7-11, 1879. He is a man full of sympathy, of medium height, about 40, and always cheerful and happy. He has visited the editors of the *British Bee Journal*, of London and the *L'Apiculteur*, of Paris. He had also visited Venice, Rome and Florence, reserving Milan for the last visit in Italy, with the intention of becoming personally acquainted with the representatives of our Society of Bee-Culture. From Milan he went to visit Signor Gatter, President of the Apiarian Society at Vienna.

Signor Newman exhibited to us some samples of American-bred Italian bees obtained by constant selection of the best to breed from. They were workers and drones the most beautiful we have ever seen. Their color was of a splendid light yellow; the rings of the abdomen were also yellow, with the exception of the last, which was blackish, yet the sides were yellow. On the corslet, near the junction of the abdomen, they were of purer yellow than we had ever seen on any other bees.

The method employed to obtain such splendid progeny, Signor Newman said, consisted in the selection of the choicest of the best colonies of bees—taking them to a locality where there was no danger of other bees to interfere, and then to breed drones and queens. It is in substance, as we have stated it. Careful selection is the method employed to obtain such eminent results in the animal and vegetable world. We are glad to see similar means used by bee-keepers to obtain an improvement in the race of bees. Of course amelioration could be easily procured here. Since bee-keepers so far from us obtain such results by changing the queen, we confidently recommend such a practice here, in the conviction that in time the apiarists would be proud of having followed a method, which costs only a very little experience or at least, a little time and care, and would prevent them from seeing a foreigner howing the prettiest of Italian bees.

At Vienna, Austria, we showed the same bees to Herr Karl Gatter, editor of the Austrian bee paper, and to Mr. Edward Droy, late editor of the French bee paper *L'Apiculture* in Bordeaux, and both of these gentlemanly critics pronounced them very superior.

When at the Austro-German Congress of Bee-Keepers, at Prague, Bohemia, we took occasion to show these American bred Italians to many of the most noted apiarists of both Germany and Austria, and without exception they were pronounced the most beautiful bees they had ever examined. Among them we may mention the Rev. Dr. Dzierzon, the Countess, the widow of the late Baron of Berlepsch, the Hon. Augustus Schmidt, editor of the *Bienen-Zeitung*, Herr Emiel Hilbert, Herr Vogel and many others, whose names are "household words" throughout the apicultural world.

At the various Conventions in our country, such questions as the following are coming up for discussion: "Can Americans breed the best bees? "Will the coming bee have to be imported?"

and "Where shall we look for the best race of bees?"

Men of advanced ideas are being greatly exercised over these questions. They are thinking, pondering, experimenting, planning and testing. Americans are never satisfied with present attainments—they "reach out after the things that are before"—pressing towards their ideal prize, and will never rest till it is in their possesion. In the question of improvements in the race of bees, the grand possibilities are on our side. Our most careful breeders have it in their power to dispel all doubt and silence all cavil, by patiently and carefully selecting their best to breed from, until they shall have produced a type of bees that will eclipse the best Italians of to-day, and be sought for and admired throughout the world.

Mr. Langstroth struck the key-note when he said: "We want the best race of bees, or the best cross in the world." It is yet an open question as to what part will be taken by the Cyprian race, in producing "the coming bee." A "cross" in this direction, and breeding in or out the distinctive features and propensities, may be "the next progressive step," or may not; as yet we cannot say.

Of one thing we are certain, however, "the bee of the future" will be the one that will gather the most honey, be the most prolific, and, at the same time, be the most docile, and when produced whatever may be its color or markings, its name will be *Apis Americana!*

☞Dr. Lewis Knorr, Savanna, Ga., says that the following item has been in several papers, and wishes to know if it is true:

"They now take honey from the hives without risk, in Germany, by stunning the bees with electrical wires."

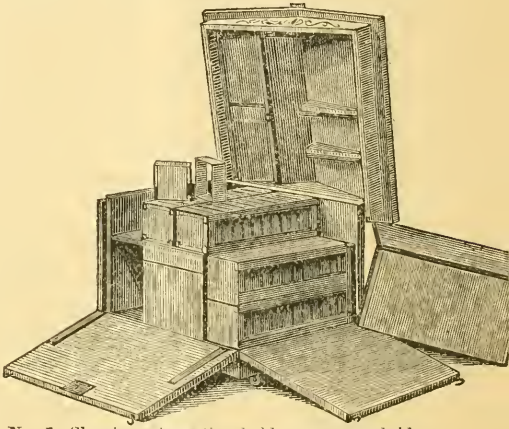
We have not heard of any such thing and have no idea that it is stated correctly. We imagine that to use electricity in the management of bees would be too great a risk. Some experiments with ether are described on page 33.

New Arrivals at our Museum.

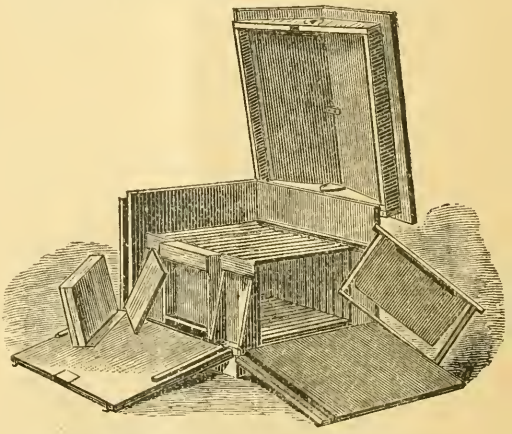
We have received for our Museum a nice photographic view of the apiary of Mr. J. H. Robertson, of Pewamo, Mich. Mr. R. is a successful apiarist and an enterprising man.

THE PALACE BEE HIVE.

We have received from the White Manufacturing Co., Madison, Ind., the palace bee hive. It is large, and has ample room for storing comb honey.



No. 1—Showing side section-holders on top and side of brood chamber, each holding ten 5¼x5¼ sections.



No. 2—Showing 18 frames, for extracted honey, tin feeder, and the feeder holder open.

Among the advantages claimed for it are: very large capacity for storing honey in sections; being also easily adapted to the storing of extracted honey, by the removal of the sections and substituting frames for them; that

the hive has controllable entrances; a perfect system of ventilation; and is so arranged that it may be locked up, preventing interference from theives.

The two engravings presented herewith will serve to illustate its internal arrangements, which are thus described by the manufactures:

Fig. 1. Shows it arranged for sections having two of the 5½ in. section holders in position at the side of the brood-chamber, and two on top, preparatory to placing in position on the other side of the brood-chamber; the vacant space to the left is supposed to be still packed as for winter, assisting in retaining the warmth of the brood-chamber for the hatching of young bees. When these section holders are removed to their place, we either put on top of the brood-chamber two more, or add the top or 4¼ in. section holders, one at a time or together as we wish, and the flow of honey may require.

Fig. 2. shows the hive arranged for 8 frames for obtaining extracted honey and allows side manipulation. Fig. 2 shows the "feeder" and our manner of applying feed to the rear and bottom of the brood-chamber, a feature, we believe to be peculiar alone to our hive.

Mr. Meyer, the manager, says: "Although there were no premiums offered on Bee Hives at the Cincinnati Exposition, the awarding committee concluded our hive worthy of award and have given us a *Medal;* this we appreciated more highly than if it had been regularly entered for a premium."

HONEY EXTRACTORS.

On page 387 of the JOURNAL for September, we gave an extract from the London *Times*, detailing the articles exhibited at the Bee and Honey Shows at South Kensington, and stated that "the first prize was taken by Mr. T. W. Cowan, of Horsham, with the Express Extractor by means of which, the honey on both sides of the comb can be extracted, without touching the frames." We purchased this extractor and it arrived about a month since and is on exhibition in our Museum. It has two comb baskets, which wholly surround the frame of honey; these automatically reverse the combs, and the honey is extracted from both sides without taking the combs from the machine or even touching them. This is entirely a new thing in England, but Mr. A. I. Root contrived a machine very similar to it, in 1873. Mr. Cowan is a progressive gentleman and has invented several extractors, &c., and Englishmen owe much to his ingenuity and skill.

Mr. W. G. Walton, of Hamilton, Canada, has sent us a model of his new honey extractor. This is also a machine for extracting both sides without taking the frames out of the machine. The comb basket has four equal sides and the comb of honey is hung by the top-bar on a frame, which, when one side is emptied of the honey, by touching a spring on the top, swings, like a door on its hinges, to the other side, and by reversing the motion, it is emptied on that side also. As this is only a model we have been unable to test it, but Mr. W. very confidently asserts that it "works like a charm." The handling of combs is not a very pleasant job, usually, and both of these machines propose to do away with considerable of that work. Mr. Walton informs us that he is preparing to manufacture and sell them during the coming season, quite extensively. He exhibited them at the Toronto Fair last fall and took orders for quite a number.

From Mr. W. T. Collins, of Jacksonville, Ill., we have a sample of his method of marketing comb honey. He takes a strip of tar-board 4¼ inches wide and wraps it around each section, fastening the ends with tacks, a small wire crossing from one side to the other at the top and bottom—the former serves as a handle to carry it by, the latter keeps the section in the wrapper. It makes a good protection against damage and dirt.

☞ The annual meeting of the Southern Michigan Bee-Keepers' Association will be held in the city of Battle Creek, Mich., Tuesday, Feb. 2d, at 10 a. m.

B. SALISBURY, *Sec'y.*

The Strength of Unity.

When in Europe last summer, it was with the greatest pleasure that we noticed the general good feeling everywhere exhibited towards America and Americans. No matter in what country we journeyed, the name itself was a passport not only to respect and honor, but also to the friendship of the best citizens. They listened with combined pleasure and astonishment as we exhibited and described the various implements used by advanced bee-keepers, and the scientific management of the apiary adopted by the progressive apiarists of America.

The bee papers of all the countries gave us unsolicited notices, which had they not been, as we considered, intended to show the esteem in which the apiarists of America were held abroad, we should have hesitated to publish, lest we might be considered egotistical. The political papers also caught the inspiration, and, deeming it a fitting opportunity to show the state of public feeling toward our country, joined in the chorus.

However much we may think at the outset that all this meant personal popularity or apistical fraternity, it is not so. Its scope is wider, its design broader, and its meaning far deeper—especially with Englishmen. It meant the desire for the unity of the race—the admiration of the great principles underlying the institutions of our civilization.

Of this we were impressed while reading in an English work the following from the pen of the author, H. W. Sweney, Esq. Speaking of the Centennial celebration of American Independence, he says:

> The Centennium, was worthily celebrated by "peace and good will to all men." It is for England and America to set an example for the nations; the 100th anniversary (birth-day) of Young America is not merely a holiday on one side of the Atlantic, it appeals to all who speak the Mother tongue; it is a bell that rings for "the unity of the English-speaking world;" it tells us how we muster in our strength eighty millions of Freemen speaking the tongue of Shakespeare, of Byron, of Washington Irving, and of Longfellow; and as the cable joins the lands, so it should join the hands, and with them the hearts! Once unite those who speak the English language, whether from the Old Country, from the States, the Dominion or from Australasia, and the peace of the world is secured; once agree that "blood is thicker than water" and nothing can ever again separate England and America save the Atlantic Ocean.

Being in London on the 4th of July, we heard much that interested us—much that exhibited the true feeling of brotherhood, which is, as it were, springing into life in that grand old country—much that told us of the growing unification of the race! We found that our dream of the future was literally becoming a part of the history of the present—that the 4th of July was gradually becoming a grand Gala-Day to the votaries of Liberty throughout Christendom—removing it from the political and even from its natural birth-place, and giving it to the inhabitants of a World fighting with the weapons of peace for fraternity, unity and liberty. On the morning of the 5th of July we were astonished to find the following editorial in one of the London dailies fully confirming our views, as we had often before expressed them:

> The 4th of July was celebrated in London at the Westminster Palace Hotel, by a banquet. Her Majesty's light guard band, led by Mr. Godfrey, who took the band to Boston at the celebrated Gilmore Festival, furnished the music. This shows how the events which led to the anniversary now celebrated have passed into history and can now be discussed by the descendents of those who took part in the operations, removed from prejudices and all the fierce passions transmitted by strife, ending in disruption. It is now universally admitted that the side that ought to have won, did win; it would have been a check in the progress of liberty and civilization had King George prevailed. As effects mankind, the triumph of the Colonists might well be celebrated everywhere, for it made one of those epochs which may be termed the stepping-stones of liberty—perhaps the last and largest. If it is beneficial to mankind, even England cannot be excluded; indeed there are those who are convinced that England would have suffered but little less heavily in the defeat of the colonists than the colonies themselves.

At one of the banquets given in our honor in Great Britain, the following "toast" was proposed at the conclusion of a very complimentary speech of welcome:

> "The Hon. Thomas G. Newman, President of the North American Bee-Keepers' Society and Representative of the progressive apiarists of America."

In the light of the above facts, we do not now wonder so much at the enthusi-

asm created by our response, which was substantially as follows:

Brother Apiarists: I cannot appropiately express to you my thanks for the right-royal welcome you have given to me. The very complimentary address which preceeded the "toast," has, I fear, so far unnerved me that I shall be hardly able to reply. I am fully sensible of the fact, however, that it is not intended for me personally, but is accorded to the official position I chance to occupy. In behalf, therefore, of the great body of apiarists in America, whom I have the distinguished honor to represent, on this occasion, allow me to again thank you for your most cordial and fraternal welcome. I accept it as gratifying evidence of your good-will towards our country and its progressive bee-culturists.

This enthusiastic assembly gives me a fuller comprehension of the dignity of our mission, the magnitude of the work before us, and the exalted possibilities that inspire us to fresh zeal and grander achievement. Behold, how invention and art and science have followed our pursuit—see how exalted is the position it now occupies—the result of scientific management of the "little busy bee." Indeed I feel highly honored to represent so great a country as America in your midst, and with you to form a part of the onward, sweeping tide of destiny.

We have but just now ended the first Century of our National history, while you can boast of twenty centuries filled with deeds of heroism and glory. As a result, your time-honored flag now waves over so much of earth's surface that it is said, "the sun never sets" on the might of your vast domain.

In history, it is true, America is "but a child," but pardon my enthusiasm while I say that, for prodigious achievement, it is a *Giant!* My "bosom swells with pride" when I contemplate the little Atlantic belt, composing the thirteen colonies of "a hundred years ago" and compare it with the America of to-day! See how "the Star of Empire" has spread over almost a Continent! The "Stars and Stripes" now "wave in triumph" from the granite hills of New England" to "the Goldon Gate of the Pacific!" Our mighty Empire is now bound by bands of steel and lines of electric intelligence from the Atlantic to the Pacific. The civilization and enterprise of our sons have bidden the forest to "blossom like a rose"—the broad prairie and limitless plain to "bear fruit abundantly" that your teeming millions might be fed and made to rejoice! Already the "notes of triumph" burden the air from Ocean to Ocean, and very soon the hills and valleys, prairies and forests, villages and cities will unite in "the swelling chorus" of the grand anthem sung by a World over the marriage of the Nations, the birth of the New Era, and the complete unification of the race.

We can now see that we had touched a cord which vibrates in all the breasts of the progressive spirits of Europe as well as America.

We point with great satisfaction to the fact that progressive apiarists, the world over, are feeling that their interests are one, and that we are all a band of brothers.

As evidence of the existence of this fraternal feeling, on the European Continent as well as in Britain, we refer to the following letter from the President and Secretary of the Swiss Society of Apiculture, with whom we visited several apiaries and spent a most enjoyable time:

Nyon, Switzerland, Sept. 5, 1879.

To the Hon. Thomas G. Newman, President of the Association of Apiculture of North America and Editor of the American Bee Journal, Chicago, Ill.:

DEAR SIR—

We have the honor to inform you, that, in order to show their appreciation of the very valuable services you have rendered to Apiculture, the *Societe Romande d'Apiculteur* have at their General Assembly on August 21st 1879, unanimously elected you to an honorary membership of their said Society.

We take this occasion, Sir, to offer you our hearty thanks for the honor you have shown us, by attending our Assembly. You were, indeed, a very welcome guest among us, and ardently did we press the friendly hand, which through you, the Apiarists of North America extended to us across the Ocean. We assure you that we will do all we can to maintain and cultivate the friendly relations, which were through you established between us.

We sincerely pray for your safe arrival among your own people, and we assure you, Sir that we fully appreciate your distinguished visit.

For the *Societie Romande d'Apieulteur*,

C. DU RIBEANCOURT, *President.*

ED. BERTRAND, *Secretary.*

As a further evidence of this state of feeling, we present the following letter from Mons. Dennler, editor of the Alsacian *Bienen-Zuechter*, whom we met in London and afterwards at his home:

Enzheim, Germany, Nov. 10, 1879.

MY DEAR MR. NEWMAN:

How quickly time flies! Three months have already elapsed since I enjoyed the honor of your visit at Enzheim, I have read with great interest the reports of your long European tour, published in your JOURNAL, and how well you was received by all the bee-keepers of the various countries through which you traveled. I am quite anxious to see your report of the American Convention, at Chicago, which no doubt has made its appearance in your JOURNAL by this time. The European Bee-keepers were quite enchanted by your presence in Prague. All the journals devoted to bee-keeping in Germany and Austria have made mention of your visit.

Your German book: "Bee-Culture; or Successful Management of the Apiary," which you left me as a keepsake, is well written and deserves a large circulation among us. C. DENNLER.

This article is already much longer than we intended, and we will let it close with the following letter from the Rev. L'Abbe L. DuBois, a prominent clergyman of France, and an enthusiastic apiarist:

LaMalmaison, France, Nov. 28, 1879.

HONORED SIR—You have now returned from your voyage and will have come to the conclusion, from what you have observed in France, that bee-culture

in that country takes a back seat. Germany and Italy are far ahead of us; England, too, stands above us; but all these countries take a secondary rank when compared with the bee-culture of America, and we Frenchmen march last in the line. The majority of bee-keepers not only stick to the old fogy treatment, but they also exert themselves when possible, to hand this treatment down in its purity to posterity.

A certain number of bee-keepers have nevertheless listened to the admonishing voice of advancement, and their examples have already begun to bear fruit. Relative to this, the establishment of Mr. Todd, near Paris, deserves above all others to be favorably noticed, the more so, as the progress we have thus far made, had its basis only in the work of Mr. Bastian, which of itself is not sufficient. What we most need are works like the "Manual of the Apiary" by Prof. Cook, and your inestimable AMERICAN BEE JOURNAL.

I cannot conclude without expressing to you my heartfelt thanks for the kind wish that appeared in your October number, in regard to me. I should have felt myself greatly honored by your visit.

The present year was discouraging to bee-keepers; the bees starved and all the colonies had to be fed, after having been reduced to one-third and in many instances to one-fourth of their numbers. I hope next year will be more favorable.

L'ABBE L. DUBOIS.

We are exceedingly well satisfied that there is a growing desire among the apiarists of the whole world to co-operate with one another, and that each will perform his part in the great work of progress, and gather in his share of golden sheaves from the waving harvest.

☞ To any one who will send us copies of the AMERICAN BEE JOURNAL for July to November, 1866, inclusive, we will send the JOURNAL for one year. Send them by mail, and write us a postal card giving your name and address, and we will send the JOURNAL either to your own or any other address for one year. We will also pay 10 cents each for the following numbers: Jan., Feb. and March, 1868, and Jan., Feb., Aug. and Oct., 1877.

☞ We intended to have used paper during this year, very slightly tinted, and of good quality, but we are sorry to say that our paper makers have disappointed us. We ordered the paper for this Volume two months ago, but on account of the rush of orders it has not yet come to hand, and we were obliged to use an inferior article. We expect it in time for our issue for February.

☞ The *Western Rural* of a late date has the following concerning a correspondent's experience with Mrs. Lizzie Cotton. He says:

I saw her advertisement in the *Farm Journal* and as my health is very poor I thought, perhaps, I could get rich keeping bees, if I could make fifty dollars from every colony of bees. So I sent her (or him) six dollars. She acknowledge the receipt of it and said she had so many orders that she could not fill mine then, but would let me know before she sent it. I waited two months and then wrote to her. She replied by postal card, saying she would send the hives the 15th of February. Then in a couple of days I got another saying she would start the hive to-morrow, but I never got the hive, and I think that she is a big fraud. S. S. B.

Gibson City, Ill.

Hard wood manufactured from wheat straw is one of the latest things out. Mr. R. C. Taylor, of N. C., has sent us the following clipping from a scientific paper, descriptive of it:

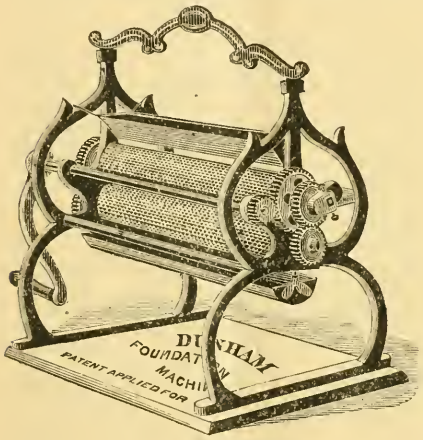
A process has been devised for making wood out of common wheat straw, the method being described as follows: Ordinary straw board is taken, such as is usually manufactured at any paper mill, and as many sheets are used as are required to make the thickness of wood desired. These sheets are passed through a chemical solution which softens up the fibre and completely saturates it. The whole is then passed through a succession of rollers, dried and hardened during the passage, as well as polished, by which treatment it comes out of the other end of the machine in the character of hard, dry wood, ready for any of the ordinary uses. In addition to this, it is claimed that the chemical properties, hardening in the fibre, entirely prevents water-soaking, and renders the wood combustible only in a very hot fire.

Mr. Taylor suggests that it might be made available in the manufacture of bee-hives, &c. Perhaps so, yet we fear it would prove too heavy and otherwise inconvenient for use in the apiary; besides it has no advantages over pine.

☞ We have a few copies of the first edition of Cook's Manual, which we will sell at 30 cents each.

Dunham Comb Foundation Machine.

We have received at our Museum one of these popular machines. We neglected to notice its arrival before, though it came in time to be examined at the National Convention. As a result orders for 12 machines were received during the week of the Convention. This machine makes foundation with high side walls, and while we do not



wish to say anything against any other machine, our own experience is that bees will work out the cells on this kind of comb foundation before that of any other, even when strips of each are put side by side in the same frame.

☞At the Convention of Bee-Keepers held in Edmonton, Ky., (a report of which may be found on another page) it was decided to organize a State Convention next year. Bee-keeping is on the increase in that State, and a great many intelligent men are taking an interest in the business. This is a step in the right direction. Every State should have such an organization, and the State Vice Presidents of the National Association we hope, will see to it that such are formed at an early day. To be successful we must have organized efforts. The Vice Presidents, too, must see that Bee and Honey Shows are inaugurated in every State, so that those who produce honey for the market may be induced to produce it in the most marketable shape; for the old slip-shod manner of production must pass away, while the new methods and new ideas of practical management will take the place of the old and undersirable methods.

☞The Mount Pleasant, Iowa, *Free Press* speaking of the Rev. O. Clute's lecture before the Bee Association in that city last fall, says:

> There is a pleasure in the pathless woods, and there is also a pleasure in hearing a pleasant speaker when he is so filled with his subject and familiar with all its phases and details, and has such a mastery of language that his subject unrolls before you like a series of illustrated maps; as all who were so fortunate as to hear Rev. O. Clute's lecture before the Bee Association on Saturday evening last, will bear witness.

"Too Much Honey" was the cry only a few months ago; now it is the opposite of this! Then, a bee-keeper wrote as follows: "I do not know but so much honey will be produced that it will not be worth raising." Now the cry is for *more honey!* Before the winter is over, there will probably not be a pound to be obtained at any price. Europe is stretching out her hands to us across old Atlantic's billows, and crying "More, more; give us more!" The low prices of the past few months have encouraged thousands to "eat honey," as advised by Solomon of old, and the demand is steadily increasing.

The present advance in prices and the short crop will retard the consumption a trifle, but it will be only of short duration. Not one in a hundred is now eating honey that will do so, within a few years. The prices may be somewhat lower but the demand will be good, and we hope that next years' crop will be plentiful, that the prices may be somewhat lower than now, so that those who have learned to eat honey during the past year or so, may feel as though they could afford to continue to use it unsparingly. "Too much honey produced!"—not at all! Markets yet undeveloped would take ten times as much as is now produced.

Glucose for Adulteration.

DEAR EDITOR.—Have you seen the article in a recent No. of the Chicago *Tribune*, entitled "Manufacture of Glucose from Corn?" It seems you have an extensive manufactory of it in Chicago, and that it is used to an enormous extent, for the adulteration of California honey for exportation, etc. Think of one house only, using in 1878, five millions of bushels of corn in its manufacture. Bee-keepers have no objection to their making as much of the article as they please. What we object to, is the lying and rascality implied in selling it under a false name for an article that costs twice or three times as much. Bee-keepers are now sufficiently numerous and have influence enough to put a check to this fraud, if they choose to use their power, and they will be forced to act in self defense.

C. W. TAYLOR.

We have seen it, and also the item in *Gleanings* for December page 474, where Novice says: "Grape sugar, so bitterly persecuted and misrepresented has now taken its place among the legitimate products of our indian corn, and its manufacture has become a great industry, benefitting many classes of people." We are sorry that Novice should see fit to give it all this praise, and carefully conceal the fact that one of its main uses is to adulterate honey and thus cheat the public and damage bee-keepers.

From the article of the Chicago *Tribune* we extract the following:

Manufacture of Glucose from Corn.

The extent to which the manufacture of glucose syrup from corn has reached, would astonish the country if fully known. We are not prepared to give figures indicating the totality to which this business has already reached. In fact, the business is at present mainly carried on under a kind of secrecy, the profits being immense, and the article produced being used, but not avowedly.....

1. It is sold as was proven before the Congressional Investigating Committees, in immense quantities to sugar-refiners.

2. It is sold to all manufacturers of so-called syrups represented as made from pure sugar.

3. It is sold in immense quantities to manufacturers of candy and all other forms of confectionery; instead of buying sugar largely made from glucose, they now buy the glucose itself and make their wares direct from it.

4. It is sold extensively to be mixed with *California honey*, it assimilating in color and in other respects with that article. It is mixed in the proportion of at least one gallon of glucose to one of honey, and the combined product is now not only *sold to consumers as honey*, but is also exported to Europe, where on account of its cheapness as well as its flavor and other qualities, it is finding an increasing market.

5. It is used in the East in the manufacture of sweet wines and in all liquors requiring syrups.

In naming these purposes to which glucose is applied, we do not mean to say that it is confined to such uses; of course, it enters into all other productions of which sugar is a constituent.

The extent to which corn is used for the manufacture of glucose, which manufacture is only in its infancy, may be judged when it is known that the consumption of corn for this purpose during 1878 by the one establishment to which we referred, was 5,000,000 of bushels. For a time the trade was confined to a few hands, in New York, but the patent process has been sold to others, and at least one large establishment is in operation at Buffalo, another in St. Louis, and a third in Chicago—the latter having been put in operation quite recently.....

This industry presents the rather strange phenomenon of manufacturing annually the equivalent of many millions of pounds of sugar, involving the employment of large capital, with machinery, consuming millions of bushels of corn, and yet the whole business is carried on with as much secrecy as attends the illicit distillation of spirits. No purchaser is willing to avow that he purchases the article; both seller and purchaser avoid publicity. The purchaser of glucose sells it to his customers under different names at ten times its original cost, and the consumers are paying several hundred per cent. profit on all commodities of which sugar or sugar syrup is suppose to be the essential ingredient.....

As Mr. Taylor remarks, the fraud is in selling the article as "honey," and as "syrup," calling it by these names, and thus reaping a profit, unjustly and fraudulently of 50 to 75 per cent. on this adulterated "honey," or "syrup" put upon the market.

Let every bee-keeper take this matter in hand and write to the Member of Congress from his district, and demand his influence and vote for the law against adulteration of food, when it shall again be brought before Congress. Immediate action is necessary, in order to secure the passage of the law.

The Bee-Keeper, is the title of a new paper started in London, England. It presents a very creditable appearance. It is well edited and nicely printed.

Advantages of Bees.

In its *Iahresbericht* for 1878, the "Bienenwirthschaftliche Hauptverein im Konigreiche Sachsen," publishes the following highly interesting statiscal data referring to the indirect utility of bees: "It has ever been one of the objects of all apicultural societies to prove the great importance of bees to agriculture generally. It appears that the Society named possesses 17,000 hives from each of which 10,000 bees fly out daily, which represents a total of 170 millions of bees. If we suppose that each bee undertakes but four journeys per day, and that this takes place only on 100 days out of the 365, then we obtain a yearly total of 68,000 millions of bee-journeys. It is not too much to suppose that 50 flowers are visited on each journey, and we are certainly justified in supposing that 5 out of these 50 are fertilized; then we get a grand total of 340,000 millions of fertilized flowers per year. Let the value of fertilizing 5,000 blossoms be but 1 pfennig (or 500,000 for 25 cents), then the work done by bees of the Society represent a value of 68 million pfennigs, or $170,000. Its results from these calculations that each hive benefits agriculture to the amount of $10.00 annually, a value hitherto totally overlooked."

The fertilization of plants by the bees presents a very interesting field for study. But for the oft-repeated visits of the bees, myriads of beautiful flowers would in a short time cease to bloom —aye, and cease to live also! Many plants absolutely require the visits of bees or other insects to remove their pollen-masses, and thus to fertilize them. Hence Darwin wisely remarks, when speaking of clover and heart's-ease: "No bees, no seed; no seed, no increase of the flower. The more visits from the bees, the more seeds from the flower; the more seeds from the flower, the more flowers from the seeds." Darwin mentions the following experiment: "Twenty heads of white clover, visited by bees, produced 2,990 seeds; while twenty heads so protected that bees could not visit them, produced *not one seed*." Thus is infinite Wisdom displayed by Nature on every hand! Nothing is created in vain; each has its proper sphere, and each its appropriate work to perform.

The National Convention.

Mr. A. J. King, of New York, editor of the *Bee-Keepers' Magazine*, thus gives his opinion of the late meeting of the North American Bee-Keepers' Society, held in this city.

Never before was a meeting of this Association held in Chicago, and as Mr. King characterizes this one as "the best one ever held in this country," we have reasons to feel proud, and hope western and southern bee-keepers will feel interested enough in the next meeting to make it even an improvement over the last one. It can be done, and it ought to be done! Mr. King says:

The Chicago convention was, in many respects the best ever held in this country. Such unanimity and general good feeling, with the intelligent discussion of a wide range of subjects, rendered it indeed and in truth a "feast of reason and flow of soul," and we cannot but believe that the two or three hundred persons, who participated in this feast, feel that it was money and time profitably expended. This desirable condition of things was largely due to the efficiency of the officers of the Association, all of whom, save the Treasurer and a few Vice Presidents who were absent, were unanimously re-elected.

We renewed some old acquaintances and formed many new ones. The good impressions, formed by correspondence, were confirmed and deepened on personal acquaintance.

While at Chicago we enjoyed the hospitality of our old friend, Thomas G. Newman, Esq., President of the Association, and we shall not soon forget the kind and genial manner in which we were received by his family, whom we met for the first time on this occasion.

Take it "all in all" the Convention was a "grand success," and did work of permanent value to the science of apiculture. The valuable essays read at the Convention cover nearly the entire ground of practical and scientific bee-keeping, and will appear at the appropriate time in our columns.

☞ San Diego *Union* says that during November Mr. Maxfield's apiary, on the east of San Miguel mountain, was swept away by the forest fires that raged in that vicinity. He is reported to have lost 70 colonies of bees, in addition to the buildings, etc., on the ranch.

Correspondence.

For the American Bee Journal.

Death of the Rev. William C. Cotton.

WM. CARR.

This good old veteran Bee-master was born in 1814 and died on June 22d, 1879. Mr. Cotton was the eldest son of the late Mr. W. Cotton, some time Governor of the Bank of England. He was formerly student of Christ Church, Oxford, and Newcastle scholar. He was through life an ardent bee-keeper, and by his writings and personal example did much to popularize the science of apiculture. When quite a boy his father read to him a translation of Virgil's fourth Georgic on Bees, and the next morning, he tried to carry out Virgil's instructions how to get a swarm of bees, so tried to bribe his father's farming man, by promising him, a small taste of his first honey, if he would kill a two-year old bull-calf, so that from the maggots when it decomposed, he could get a swarm of bees; his father hearing of his son's wish to kill the stock, procured for him his first swarm of bees.

In 1833, the Oxford Apiarian Society was formed through the exertions of Mr. Cotton, who undertook the duties of Secretary. In 1838 he wrote two "*short and simple letters to Cottagers, from a Bee Preserver.*" Twenty-four thousand copies of these letters were published.

In 1842 he produced the well-known work entitled "My Bee Book," which not only treated of the best modes of management of bees at that time in all parts of the world, but which also included several rare treatises of former English apiarists, on the economy and practical management of bees.

In 1841 Mr. Cotton became domestic chaplain to the late Bishop of New Zealand, Dr. Selwyn, with whom he embarked on board the *Tomatin* at Plymouth, on the 26th of December of that year. On the voyage out, and subsequently, Mr. Cotton rendered the Bishop much assistance in translating the Bible into the native tongue. Mr. Cotton took with him four colonies of bees, and many marvellous stories are told of his mastery over his favorites on ship-board. He was very successful in the introduction of the cultivation of bee-keeping in his adopted country; and in 1848 he produced his "Manual for New Zealand Bee-Keepers," published at Wellington, New Zealand.

Before the introduction of the honey-bee into New Zealand, they had to send over to England every year for the white clover seed (*Trifolium repens*) as it did not seed freely there, but by the agency of the bees they are now able to export it. New Zealand is such a good country for bees, that Mr. Cotton told me one colony had increased to twenty-six in one year. The natives call the bee, the white man's fly.

After his return to England, Mr. Cotton was presented in 1857, to the Vicarage of Frodsham, Cheshire. I made his acquaintance on August 29th, 1868, and we kept up the correspondence to the last year of his life. He was a very kind, generous man, and capital company. On the third day of June 1869, he was watching my bees in the Unicomb hive, when I happened to say to him, "you see the queen, always turns her body so that her head is below the horizontal line, when laying an egg." He exclaimed, does she? I said! there she is again turning her body so that her head is below the horizontal line. After watching the queen lay a number of eggs, he said, I have represented the queen laying with her head upwards in "My Bee Book," but in the next edition I will turn the plate the bottom side upwards, when it will be all right. The Rev. L. L. Langstroth and others have copied this plate out of Mr. Cotton's Bee Book, and have all made the same mistake.

In 1872 Mr. Cotton published a most amusing work entitled "*Buzz-a-Buzz, or The Bees done freely into English,*" by the author of *My Bee Book*, from the German of Wilhelm Busch. It is written in rhyme, profusely illustrated, and as the author says in his preface, "The verses were written up to the pictures, rather than translated from the German Text." It is a most amusing production, and there is much truth lying hid under the comical stories, and still more in the illustrations, and the notes which are appended may be found useful even by scientific bee-masters; and any one who saw the honest, burly, English form of the author, in his guaint blouse at the first show of the British Bee-Keepers' Association at the Crystal Palace in 1874, will read Buzz-a-Buzz with redoubled delight.

Mr. Cotton, to the end of his life, retained his love for the fascinating study of his youth. He took a great interest in the establishment of the British Bee-Keepers' Association, became one of its first Vice Presidents, and was one of the judges at its first show. Though in issuing his *Letters to Cottagers*, he designated himself a "Conservative Bee-keeper," he was ready when con-

vinced of the superiority of the "more excellent way," to cast on one side the mode of management of his early days, and to advance—foot to foot, and shoulder to shoulder—with the most expert of bee-masters. The late Mr. Cotton was the elder brother of Lord Justice Cotton, and died a bachelor.

Newton Heath Apiary, Near Manchester, England.

For the American Bee Journal.

Ladies and the National Association.

MRS. L. HARRISON.

The following letter was sent to me through the courtesy of the Editor of the BEE JOURNAL:

Fincastle, Ind., Dec. 9, 1879.

Reading a letter from a lady bee-keeper in the BEE JOURNAL for December, whose name was not given, I address this to you through the BEE JOURNAL Office. It is a subject over which I have exercised many thoughts. I admire your reproof of the gentlemen for their course towards the ladies who attended the late National Convention, in search of information. Perhaps those timid ones you complain of, felt some delicacy in frankly discussing all subjects connected with bee-culture in the presence of the fair sex. However, we are aware, all persons having the management of bees, should have a proper knowledge of all things connected with apiculture. Consequently, would it not be more appropriate for ladies to form an Association among themselves. They could discuss subjects of importance, and learn to think and act for themselves accomplishing more than under the present system. There are quite a number in the business and many competent to teach if they would unite. Some say that it is not suitable for ladies to engage in, as they cannot perform all the requirements. I think differently, when made a profession. If not able to do the heavy work she could get assistance; this would give healthy employment to idle women, and "in union there is strength." I am sure, I feel amply paid for all labor and capital invested; we have managed all the time to keep at top prices, selling our surplus comb-honey readily at 20 to 25c. per pound, without any effort on our part, except to have it put up in neat and attractive shape.

MARY BROTHERS.

I differ with the writer, as to the desirableness of forming an Association, composed entirely of ladies. I always thought that the Lord knew what was best when he said, "it is not good for the man to be alone." As our country should know no North or South, so should bee-keepers as such, be treated equally, without reference to sex. At the late meeting in Chicago, there were bee-keepers all the way from Canada to Texas, and it was none too large. We can learn bee-culture theoretically at our homes, by studying the books that have been published, and the "Monthlies" keep us posted on any improvements that are being made. We can read at our leisure the essays and discussions that take place in the Conventions; but our object in attending is to become acquainted with prominent bee-keepers personally, meeting them in a social way.

Peoria, Ill., Dec. 16, 1879.

For the American Bee Journal.

Wintering—Dysentery, &c.

W. A. HORTON.

I beg leave to offer an objection to an idea expressed in Mr. Doolittle's article in the December number, in regard to the so-called dysentery among bees.

He takes the position that long confinement is the cause, and asks the question: "Do we see the bees soiling their combs and hives at any other times, except after a long continued confinement?" I, for one, answer, *Yes!* A few of my colonies (very weak of course and which I had not put up for winter) had not been confined to their hives more than a month when they commenced soiling the insides of their hives, soon after the first cold snap in November. The experience I have had in bee-keeping in northern Indiana, teaches me that severe cold is as much the cause of the trouble as long confinement; but the two combined, *i.e.* long confinement and severe cold produce the mischief.

I have tried but four ways of wintering bees, six years out of doors, without protection; eight years in the cellar; two years in a bee house, with walls 12 inches thick, filled in with sawdust; and the last four years in outer cases with 5 inches of chaff all around and underneath, with coffee sacks filled with chaff and laid on the top of the hives, after the honey boards were taken off; the boxes were then covered to keep out rain and snow. If my 75 colonies come out in good condition (except a few that will be queenless, &c.) I expect to throw up my hat and shout for chaff for winter and summer.

Our nearest neighbor lost 25 out of 28 colonies, last winter. They stood on their summer stands with corn fodder around, but not in front, and the upper story filled with straw. Since the adoption of chaff-packing my bees have come out all right every spring, except as above mentioned.

Allen, Ind., Dec. 16, 1879.

For the American Bee Journal.

Fertilization in Confinement, &c.

R. M. ARGO.

I rejoice to see the AMERICAN BEE JOURNAL keep up its good reputation, and improve for the better each year.

We have just passed through one of the worst honey seasons in this section I have experienced since 1868. This has been general throughout the country, and almost a total failure in California. Last year was also a tolerably poor honey season in this section, and I have observed that, as a general rule, a good honey flow always follows two poor ones. It is said that good corn years are always bad honey years, and the season just past would seem to confirm this assertion, for, notwithstanding the great drought this year, I never saw a better corn crop.

I see from the report of the National Convention, that Prof. J. Hasbrouck has succeeded in his experiments with fertilization of the queen in confinement. Among the various modes in which I experimented, one was very near like the one he succeeded with, the only difference being that I used a large store box, instead of a barrel. If I live, I shall try his plan again next season; but I fear, if I report the plain truth for the JOURNAL, I will have to write *failed!* Should I be so fortunate as to succeed, I will send out queens that I desire to have tested as to markings, fertility and honey-gathering qualities with any in the United States. I said, in a former communication, that the man who discovered a safe and practical method to fertilize queens in confinement with select drones, should have one dollar given him by every queen-breeder in the country, no matter how great the number. I repeat what I then said, but am not ready to pay my proportion till I am satisfied from actual experience that it is a success. I do not mean to say that Prof. Hasbrouck is mistaken, but I do mean to say, that as I took the word of over 200 (or perhaps 500) a few years ago that they had succeeded, I never will take any evidence but my eyesight.

The weather to this day has been the mildest I have seen for many years, and should it continue, the bees will winter splendidly. But it may turn out as it frequently does here, that our winter is in March and April.

I have said in former articles that an average colony of bees could winter from October till the middle of February or the first of March, on 5 lbs. of honey. I have frequently proven this true, and have wintered many a colony on from 10 to 15 lbs., and thought it was a good plan not to winter on more than 18 or 20 lbs., for fear of having too much honey in the way. But none of us will ever be too old to learn from experience. I now think it better to leave 30 or 35 lbs. in a 10-frame Langstroth hive, if you want them to come out very strong in the spring and be ready for the harvest. I believe I may safely say, that not 1 colony in 20, wintered on say about 15 lbs.. will be ready until the season is about half through, unless fed regularly in the spring, and that is very troublesome. I have worked with neighboring bees every spring, and I find that except with worn out or unfertile queens, such colonies as had an abundance of honey came out the strongest. If they have an abundance of honey early in the spring, feeding is simply useless. I used to think differently. I do not deny that some colonies can have too much in October to give the bees room to cluster out of sealed combs, and that there can be too much in the way in the spring to allow the queen room to spread her brood-nest; but these cases are very rare, and where they do occur we have only to exchange a few empty frames for full ones.

Bees wintered on little honey know by instinct their condition, and will not begin to breed till very late in the spring; while those colonies that have an abundance will begin in January, and frequently in the first week if the weather is moderate. Those who have time and patience to feed regularly in the spring, can afford to winter on from 15 to 20 lbs.

Lowell, Ky., Dec. 17, 1879.

For the American Bee Journal.

How I Prepare my Bees for Winter.

H. S. HACKMAN.

As soon as practical after taking off the surplus boxes or sections, I fill the cap with clean, dry, oak leaves, held in by tacking over them a piece of burlap. I then put the cap over the frames. When cold weather comes I see that the bees are supplied with clean stores

and pack for winter. They are in rows about 2 feet apart on a low platform. I drive stakes on the north side, 10 inches from the hives, and on the south side about 4 inches. I make a passage for the entrance through the packing, and set up boards and pack with dry leaves from the timber; oak leaves are the best. Pack solid all around and cover with boards to protect from the rain. I use leaves because they keep out more cold than any other material. I would rather have 4 inches of leaves than 12 inches of straw.

I wintered 12 colonies in 1877–8, without loss; last spring my bees came out as bright as gold, not a particle of disease among them, there was no frost or moisture in the hives during the winter. My bees came out better than any in this locality.

I lost 12 out of 69, not however by bad wintering: Three were small nuclei and starved; 2 were queenless colonies made so when extracting, and 7 were murdered and robbed by other bees, by my own fault, for not contracting the entrances in time.

My method involves, considerable trouble and work; but bees packed in this way are so comfortable in cold weather that they do not feel the sudden changes, and only fly when it is sufficiently warm for them to return.

Peru, Ill., Dec. 15, 1879.

For the American Bee Journal.

Notes from Missouri.

LEE EMERICK.

On the western border of Missouri, adjoining Kansas, is situated the large and fertile county of Cass, noted for its rich prairies, fine timber and beautiful landscapes, Dotting the prairies here and there are picturesque mounds, from the tops of which may be obtained grand views of winding streams and charming valleys, studded with neat farm houses. The soil is productive and produces all fruits and grains common to this latitude, but wheat, corn and flax are the staple grain products. Much attention is also paid to stock-raising, principally cattle and hogs.

Bees usually do well, and many colonies are kept in our villages and scattered among the farmers; but there is only one or two in the county that makes apiculture a specialty. The Langstroth hive is generally used, and a good many Italian bees have been introduced. The bee-keepers are usually up with the times, and obtain the latest improvements. Much credit for the interest felt here in apiculture is due to Thos. Wharry, who first introduced the Langstroth hive and Italian bees in this region. He was an enthusiast. He loved the bees, and never became tired of giving information to those seeking a knowledge of bee-keeping. He deserved success, but his apiary was much depleted by a severe winter, and soon after that his wife died and he, with his little boy, went to Texas. But the interest he aroused still survives.

The honey crop this year is a failure. There is no surplus and many colonies will perish from starvation before the spring flowers bloom. The honey failure is contrary to the usual order of Nature, as a good crop year and a good honey year usually go together. But this year it is an exception, as we have had an extraordinary crop of wheat, flax and corn, the latter averaging from 50 bushels, upwards. There was less bloom than usual, but what bloom there was did not seem to secrete nectar. Such a season as the past is certainly discouraging to the apiarist who makes bee-keeping a specialty. But by mixed husbandry when one interest proves a failure another may give an abundance, and thus a competency be secured each year.

There was no honey-dew last summer. Old settlers state that honey-dew was very abundant in past seasons, that it really dripped from the leaves of the trees and the prairie grass was sticky with it, and the prairie chickens got so gummed with it, that they could not fly. This may appear an exaggerated statement, but I know my informants are men of veracity who would not make a misstatement. This being true there must be some other theory than that of Aphis or plant lice to account for it. Some years honey-dew is very abundant here, and is found most on the hickory and oak. I have never been able to discover any Aphis at work. The honey from the dew is inferior in quality but improves with age.

I had 90 colonies last winter but lost 20 during the winter and spring. So I began last spring with 70 colonies in good condition. By natural and artificial swarming I again increased to 90 colonies and these are being wintered on their summer stands. The stronger colonies furnished surplus honey enough to share with the weak and I think they all now have an abundance. This summer I succeeded in Italianizing my apiary. Rearing from an Imported queen which produced dark queens, varying in color. My Henderson queen never failed to produce large yellow queens, exact duplicates of the mother.

The workers of both breeding queens are pure.

As yet we have had but little cold weather; this morning Dec. 11, being the coldest. The thermometer stands at 18° above zero. There has yet been no snow and bees fly every few days.

Allow me in conclusion to say that I now have complete files of AMERICAN BEE JOURNAL from its first issue to the last number, and while the first volume is good, the last is the *best*.

Harrisonville, Mo.

For the American Bee Journal.

Removing Propolis from Glass.

P. BALDWIN.

I have not seen in the JOURNAL anything about cleaning glass after it has been used and become unfit for further use on account of the large amount of propolis on it. Those who use glass largely will have some of this description. My method of cleaning it may be old and well-known to some, but I will give it for the benefit of those who are not accquainted with it. It can be used in cleaning glass in honey racks that have become smeared and objectionable. Take one box of concentrated lye and dissolve it in 2 gallons of soft water (larger proportions can be used if desired). After it is thoroughly dissolved, put in as much glass as it will cover well, and let it remain 24 or 36 hours. Take it out and put into a vessel of water and wash it clean, which can be easily done as the propolis comes off readily, then rinse in pure water and put away to dry.

The solution may be used several times. Care must be taken not to allow the liquid to come in contact with the hands.

Independence, Mo., Dec. 16, 1879.

For the American Bee Journal.

Market Quotations for Honey.

DR. C. C. MILLER.

I have neither the time nor the inclination for a lengthy discussion with my old friend the AMERICAN BEE JOURNAL. The article in the December number would never have been written by me, but that I expected to be present at the Chicago Convention to learn something in the discussion of the paper, which was little more than a series of questions. But I think, dear old JOURNAL, there will be little difference of opinion between us when we talk of the same thing. You evidently wrote about the prices paid by the few wholesale dealers who buy outright from producers, and I am writing about the prices at which the commission men can sell our honey for us. Is it not a fact, that the great bulk of honey in Chicago is sold by commission men? Now, as you are laboring for the direct benefit of us who produce honey, is it not desirable to know each month what commission men can sell our honey for, and not what dealers are willing to give us for it? Do you not really give commission men's quotations for the New York market? If I am to be guided by the quotations in the December AMERICAN BEE JOURNAL, it will be greatly to my advantage to ship to New York, as you quote New York 4c. per lb. higher than Chicago; but I am strangely misinformed if I can get any more for honey in New York than in Chicago. I cannot see that there is any more difficulty in giving quotations for honey than for some other articles, as butter, fruit, &c., there being just as much "a recognized grade in quality, and uniformity in the style of preparation for market," in one case as in the other. If you will give us in addition to present quotations, the prices at which commission men can sell our honey, you will do us a real service.

Marengo, Ill., December, 1879.

[The comments appended to Dr. Miller's article, published in the JOURNAL for December, were intended more to explain the apparent incongruities in the market quotations, than as an argument *why* they should be so. There is no difference of opinion between Dr. Miller and the JOURNAL. When three commission men, located in one square, vary 3c. per lb. in the price demanded for honey of the same grade, it is difficult to arrive at quotations, except upon the basis of sales made. We do not think it would be safe for any one to predict "the prices at which commission men *can* sell honey," and certainly not so until there is united action on the part of producers to instruct the commission merchants as to the minimum price to be received. That this is feasible, or the better course to pursue, we are not at present prepared to say. Honey quotations in New York not being given in the Associate Press dispatches, we rely upon correspondents for figures.—ED.]

For the American Bee Journal.

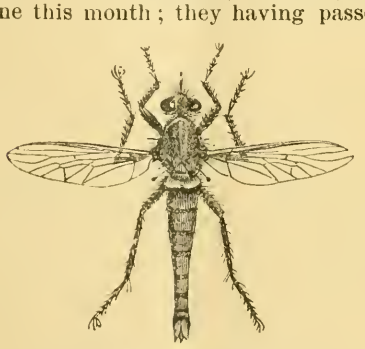
My Worst Bee Enemies.

CHAS. SONNE.

My bees seem to have lost the swarming fever. During the years of 1877, 1878 and 1879 they have not given over three or four swarms during each season, although I have had 100 colonies; I now have 105. This is to me very agreeable as I dislike natural swarming; but the fact that the honey harvest commences each year at a later date is not so agreeable. My observations and experience on this, are as follows:

Three years ago I observed in this latitude (39°) three families of bee killing flies abound: *Asilus Missouriensis* (Riley); *Asilus sericeus* (Say); *Erax bastardi* (Macquart).

I herewith send a number of specimens of *Asilus Missouriensis* and *Asilus sericeus*. Of *Erax bastardi* I could catch none this month; they having passed



Asilus Missouriensis (Riley).

away already. For a description of these three species I refer to Prof. C. V. Riley's second annual report, page 151. I will only make a few remarks on their effect on the bees.

At the time when bees begin to fill their hives, their combs being full of brood, and they bringing in honey and commencing to build queen cells, preparatory to swarming, these three species of bee-killers appear. When in the morning the dew has evaporated from the leaves and blossoms, if the day is warm and clear and the bees are busy gathering honey, these voracious insects commence their ravages among the loaded bees. You see an *Asilus* or *Erax* perched on a shaded leaf, or hanging to a stem waiting for prey, almost like a spider. Any bee coming within a foot of it is lost. With lightning rapidity, while humming much like a drone when flying, they pounce upon the bee, holding it with the two (often four) front feet, and let themselves fall to some twig near the ground, where they take hold by their long hind feet. The bee evidently feels itself lost, and is resigned to its fate. I have never seen one who tried to escape or defend itself. The *Asilus* then very quietly turns the bee between its sharp, hairy claws, so that the breast is turned towards it, when it immediately sinks its sharp, horny proboscis into the thorax (never the abdomen) of the bee, sucking its life-blood. This lasts about a minute, when the bee drops dead, and the fly-tiger is ready for another victim.

Asilus Missouriensis is rather omniverous. It catches not only bees, but any insect it can master. Butterflies, bugs, beetles, hornets, and even *Asilus sericeus* and *Erax bastardi;* the latter two in such numbers as to justify the conclusion that *Asilus Missouriensis* may become the arch enemy and destroyer of *Asilus sericeus* and *Erax bastardi.* I have observed, this year, that *Asilus Missouriensis* has out-lasted *Asilus sericeus. Asilus sericeus* and *Erax bastardi* live exclusively on bees; I have not seen one preying on any other insect. My experience and observations convince me, that these insect-tigers are the main cause of the failure of my bees to swarm, or bring in any surplus honey, so long as they abound.

My bees have been in the best possible condition during all the summer, with six, and in many hives eight combs, full of brood from the middle of May to this day. Where are all the bees which have matured during these three months? Why have they collected no surplus honey, in spite of the abundance of flowers around me, in the woods, on the open prairie, on white clover, and on my five acres of alsike clover? Why did they destroy their queen cells as soon as these tiger-flies appeared? and why does my trial-hive increase in weight immediately after the daily hunt for them, showing conclusively that they had considerably lessened?

From July 27th, I have had a hive placed permanently on a Howe scale, so that I could make close observations. On every clear day, from 1 to 2½ lbs. of bees would by 10 or 11 in the morning have left the hive. By the time that darkness set in, my scale showed very near the same weight as in the morning. From July 27th to Aug. 15th, the trial hive had lost 1¼ lbs. On the latter day (after a few dark days had passed) I found that *Asilus sericeus* had nearly disappeared, that *Erax bastardi* had entirely vanished, and that of all the *Asilus Missouriensis* caught that day, only 1 was a female; the balance (26) were males. That same evening my trial hive indi-

cated an increase of ½ lb.; Aug. 16th showed ¾ lb.; Aug. 17th was dark—no increase; yesterday, Aug. 18th, 1½ lbs. increase; to-day I expect 2½ lbs., and within a week, from 5 to 7 lbs. daily. My honey harvest usually commences about Aug. 20th, and lasts till about Sept. 15th. This year it will commence about Sept. 1, and last to Sept. 15, justifying an expectation of half a harvest.

These bee-killing insects seem to prey near the ground, so that those bee-keepers who depend on honey from flowering trees, are likely to be exempt from the fatal effects of these flies. I depend for my harvest on plants, and, therefore, suffer severely. The few linden trees growing in our woods are much injured by the wooden-shoemakers, who use an incredible amount of linden lumber.

After the Chicago fire I settled here in the spring of 1872, and commenced with 10 Italian colonies, which in 4 years increased to 100. Then I never noticed any of these killers, and my bees swarmed, often more than I liked. In 1876 I discovered the first, and it seems they increase every year, while my bees seem to forget about swarming; only one colony having swarmed this year.

My conclusions as to the probable effects of these bee-killers are as follows: It is certainly under-estimating to presume that every bee-killer destroys 10 bees every clear day. It is also under the mark to count one bee-killer for every 10 feet, or 400 to each acre of prairie, clover, weed or grass land. Let us say 100 to an acre. They abound during three months. Let us suppose that they are voracious only for 30 days. If my bees only fly one mile, they cross over 4 sections, or 2,560 acres. Would it be too much to suppose that among every 2,560 acres will be found 25 acres of prairie, clover, weed or grass land? The result of the calculation would be the killing of 750,000 of my bees. Calculating 10,000 bees to a natural swarm, the above 750,000 would have made 75 swarms. Twenty-five acres of 100 bee-killers each would make 2,500; if these kill 10 bees a day each during 30 days, or 300 for each, it would make 300 times 2,500, or 750,000 bees. It is, of course, not supposed that these 2,500 bee-killers on 25 acres do each live 3 months, but it is supposed that during these 3 months there are so many there at any time.

How much I have under-estimated may be judged from the following: In the height of the season, where they abound, I guarantee a bee-killer to every 3 feet on all clover and meadow lands, which would be near 5,000 to an acre. Instead of 10 a day, they kill more than 25 a day. Four sections of land, on an average, certainly furnish over 100 acres of prairie, fence corners, clover and grass land. How then, is it possible for bees to gather honey or to swarm?

I confess to being rather disheartened about prospects for honey. My 105 colonies, up to Oct. 6th, have yielded 400 lbs. of honey, and that is 200 lbs. more than I ought to have taken. Cause: During summer the bee-killers; during the latter part of August and September the excessive drought. As I mentioned before, the only hope I see before me is the increase of *Asilus Missouriensis*, which, in fact, has very much increased over the two other species, and as this *Asilus Missouriensis* seems to prefer its own kind for food, there is hope that these bee enemies will play the part of those two fabled lions, who in their rage, devoured themselves mutually, all but their tails.

Sigel, Ill.

For the American Bee Journal.

Last Season in Argyleshire, Scotland.

R. J. BENNETT.

In January and February the severe frost made it unadvisable to open the hives. Later on I discovered that I had nearly lost two of my best colonies; during the intense cold they had eaten up all the honey around the cluster, thus dispelling the ancient but still popular delusion here, that bees during frosty weather lie dormant and consume no stores.

In preparing for winter, passages should be made through all combs, so that the bees may easily get at their food. I again pay a high tribute to the use of the quilt over the frames; last year it carried off all damp vapors from atmospheric influences, and this year any that may have arisen from the compact clustering of the bees passed into the quilt and were quickly absorbed.

On March 5th I examined the colonies, and was amply rewarded for the trouble; I found all in a fair condition, with the exception of the two above noted. After the four months of protracted winter, frost and snow (any variation being only sleet or rain), I dusted all liberally with pea-meal as a substitute for pollen and began stimulative feeding, and it was well I did so, for from the 5th till the close of the month, there was hardly a day that it would have been prudent to have opened the hives. Never do I remember seeing the country so far behind; crocuses, primroses, wall flower and arabus which

are generally abundant by that time in our gardens, had not been seen.

In April, flowers began to make their appearance and the willows, that had been almost stationary for the past two months, opened afresh. With the ingathering of pollen and artificial feeding, breeding began, and we hoped that all our anxieties and troubles for another season were over.

On May 7th I found the stores in every hive nearly consumed and in two cases almost beyond hope of recovery; clearly proving that up to that date the bees had not gathered any honey.

On the 24th inst., I attended a sale of bees and bought 9 colonies, 2 of which were pure Italians. This I may mention, was the best sale of bees I ever heard of in Scotland; about 80 persons being present; showing a growing interest in apiculture.

June is usually a busy month with hiving and increasing colonies. On the 5th, I again examined the hives and was perfectly amazed at their poverty. In only two cases were they in a fit condition for swarming and in one of them 5 queen-cells had been torn open and no doubt the Princesses destroyed. From the 9th to the 11th, we had thunder, lightning and rain, enough to deluge all the bees in Argyleshire. On the 20th I removed 11 colonies 2 miles from my apiary, close to a clover field, hoping that if weather at all favorable did come, they would easily secure a rich harvest; but alas! up to the end of the month, they scarcely obtained a bare existence, and from the 11 colonies I had not a single swarm.

July, like June, was cold, bleak and wet, and it was pitiable to see the bees darting out and in, and returning to the hives with empty sacs. During the month, I fed liberally every colony in the apiary.

At the end of this month, I had the pleasure of meeting Mr. T. G. Newman, President of the North American Bee-Keepers' Society, who had been sent to Europe in the interest of the science of apiculture. I learned with pleasure that Prof. A. J. Cook, has regular classes for teaching theoretical and practical apiculture, and notwithstanding many of his students have been engaged for years in the study, hundreds of things yet remain to be discovered in connection with the mysteries of the hive and the lives of its inmates. There are over 70,000 people engaged in apiculture in America and why I ask, should the people of Scotland lose a million a year, for the want of a little knowledge and bees to collect the fragrant sweets.

August opened well, and again my hopes were raised; during the first 3 days more honey was stored than during any previous month of the year. Having purchased some Italian queens at the Perth Show, 3 of them were at once introduced in the apiary, the wisdom of which will be seen later on.

On the 16th, I again examined the hives and found plenty of workers in all, but not 2 lbs. of sealed honey in any one of them; I could not resist the temptation to take about a pound from the strongest colonies, hoping that the heather would soon burst into bloom and there would be a plenty for all and some to spare. But alas, August closed and with it, all hopes for reaping a honey harvest died away. Rain took the place of sunshine. The month began with promise, but ended with disappointment.

September, the great heather honey harvest month, as a rule, was this year like its predecessors, bleak, cold and wet. The heather did not burst into bloom at all, and the hills around the Holy Loch generally clad at this season with brilliant purple, presented a gloomy brown appearance. On the 20th, I examined my apiary and decided to bring home the 11 colonies I had taken away in June, with the view of reaping a rich harvest of clover and heather honey. In the quaint words of our gardener, "with the exception of thae Italian boys the rest hae naething ava but the skeps and the broads." On the 23d, I procured 280 lbs. of sugar to be made into syrup for winter feeding.

On October 4, I weighed all the hives and found the gross weight ranged from 57 to 27 lbs.: the two Italian ones formerly mentioned, being respectively 57 to 53½ lbs. The best black colony was 45 lbs. I at once decided to Italianize my whole apiary and sent off for 12 Ligurian queens; 6 arrived on the 20th and on the 22d (a lovely day) two friends accompanying me, we introduced them. We were not a moment too soon, for in 2 cases we found princesses reigning in the hives. That is the old queens had died and the princesses were too late in hatching to meet the drones, so that nothing but destruction could have been the outcome.

Unless the practical bee-keeper makes a minute examination of all his hives some such calamity as this may from time to time happen. Having satisfied myself of the fertility of the remaining queens, I weighed all hives leaving nothing to chance. We have had an exceptionally bad season for bees, but let us take courage and hope it will be a long time before another such comes

around. Those who have preserved their colonies in good condition during this year, are likely to become wealthy proprietors during the next year.

Glasgow, Scotland, Nov., 1879.

For the American Bee Journal.

The Age of Drones.

W. S. FULTZ.

Desiring to rear a few Italian queens about Sept. 1st, from a queen I had just purchased, I examined my 15 hives to see whether I had any drones, but finding none, I procured of a neighbor two pieces of drone brood each about 10 inches square and after making a colony queenless I inserted the drone brood in it. In one piece of this brood the drones were emerging from the cells; the other was well sealed brood. A careful watch was kept over this colony; no queen-cells were allowed to hatch, and the colony became hopelessly queenless so far as the ability of the bees to raise a queen was concerned. It was well-filled with honey, and the bees were continually adding to their stores. In 10 days the drones had all hatched out, and the hive was apparently filled with them. Eight queen-cells were capped over and given to nuclei, and I felt sure the young queens would all become fertilized in due time.

On examining the hive on Sept. 30th, I noticed that the drones were fast disappearing, and thoughts they may have found their way into the nuclei, but alas I found but 2 even there. By Oct. 5th, the drones were so scarce that I had to give up all thoughts of queen rearing. The first of these drones were hatched out between the 4th and 9th of Sept., and now in 24 days they were virtually all gone. Am I not right in concluding that the age of the drones will average about 24 days, just the time required from the laying of the egg until the perfect bee emerges from the cell?

The 8 queens came out perfectly; 6 were lost in their flights to meet the drones, and the other 2 have not commenced to lay, though one of them has made at least two flights.

A writer in *Gleanings* says that during the months of June to Sept. the life of the worker is 45 days, and that of the drone is about the same, but my experiment in September shows conclusively that the age of the drone is only about 24 days, even when reared in a strong colony, and not in a nucelus. Another writer in *Gleanings* experimented with rearing drones in June, in a nucelus, and strange to say, his experiment and mine show the same results—the lateness of the season, therefore, had nothing to do with it.

In 1868, I purchased a colony of Italian bees, and wishing to rear some queens from it for the purpose of Italianizing my apiary. I carried all my nuclei a distance of 1¼ miles from my apiary, taking no drones except from the Italian colony. I had to carry drones there every 2 or 3 weeks. I then thought they found their way back to the parent colony. I now think they lived out their day and died naturally. Every fall, for years, I have noticed some colonies driving out their drones, while others had none to destroy—the latter probably had reared none for some time, and in consequence they had died a natural death in 24 days after hatching.

At our Convention last spring it was stated that if drones were shut in their hives by drone traps for 3 days they would die; one of my neighbors says that he has tried it this summer, and that his drones did die.

Muscatine, Iowa, Oct. 13, 1879.

For the American Bee Journal.

American Honey in Europe.

BEESWAX.

I am sorry to learn through the BEE JOURNAL that the past season has been an exceptionally unpropitious one for honey. But even in bad seasons American honey will, after this, find its way to this market to be sold at remunerative prices. A protectionist cry is raised here and there, but it meets with no general response. However, there is a real struggle, but not between producers and American or other importers, nor between producers and consumers, but it is consumers against land owners. Three fourths of the land of this country is owned by members of Parliament, they rent their land at exorbitantly high prices and hope by imposing a duty on imports to raise the cost of home produce to a false value and thus enable their tenants to pay their rent, but the consumers will not stand it. The question is: "shall the nation be supplied with food upon the most reasonable terms, or shall the masses slave for the sport and family pride of the landed aristocracy—the result cannot be doubtful.

Through the Thurbers we have introduced a better, cheaper and more attractive quality of honey into this

country and Europe, than the bee-keepers on this side have ever offered for sale, and American producers will realize more good, later on, than is now apparent.

Build up a good home reputation for our American honey and its fame will soon spread abroad, not only the local demand, but also the foriegn trade in it will increase. There has been considerable talk among bee-keepers about developing a market in every neighborhood. Now in visiting American apiaries, I have found that all the best honey is either sold to the regular buyers, or sent off to the commission merchant, and all the "off" quality kept for the neighbors. The home market is regularly repelled by neglecting to give it the best that can be produced. The true way to find a home market, is not by baiting it with stale or unmarketable stuff. If bee-keepers were as solicitous about the wants of their immediate neighborhood, as dealers are for the capricious taste of city patrons, they would quadruple the home market.

London, England, Oct. 6. 1879.

For the American Bee Journal.

The Honey Season in Florida.

A. B. B.

The fall has been too wet for best results from our bees. We have more flowers during this season than any part of the year. Our pine lands are carpeted with a profusion of variegated colors that is beautiful to behold. Not many of these are honey producing plants. I regret that my ignorance of botany prevents my naming those that mostly attracted the bees. Partridge peas seemeed to be highly esteemed by them. Several acres of fallow land near me grow them luxuriantly, presenting a solid mass of golden bloom. Every favorable day the roar of the bees along them could be heard a hundred yards away. More pollen than honey seemed to be gathered. The bloom lasted 6 weeks. Before blooming, the bees sucked the stems as they do those of our cow pea. The latter was quite prolific in honey.

Golden rod followed closely the partridge pea, they are still in bloom, but will last only a little while longer. Bees are now bringing in some pollen and honey. The latter is gathered from flowers, but mainly from cracked, thorned and fallen oranges, and from palmetto berries. Being able to gather from these sources until the maple and willow begin to bloom in January, they require but little stores to carry them through the winter. I have recently transferred 7 colonies from box hives; they are doing finely. Will transfer more in a few days.

My experience does not correspond with Mr. McIntyre in October number. Perhaps the difference in the locality is the cause. My bees are not at all cross. I have had little or no trouble with ants. Some disposition to rob has been manifested, particularly while transferring; contracting the entrances, however, prevented any bad results. Mr. McI. states that the present cost of transportation eats up the profits. I am further south, near lake Jessup through which the St. Johns river runs, and we have water transportation to New York. The cost on 40 gallon barrels of honey the past summer to that city, was $2.05 each. We expect to get a reduction in freights this winter.

The November number was exceedingly interesting and instructive—worth more than the price of a year's subscription to the AMERICAN BEE JOURNAL.

Clifton Springs, Fla., Nov. 18, 1879.

For the American Bee Journal.

Wintering and Transferring.

W. L. COGGSHALL.

In the fall of 1878 I procured dry-goods boxes and packed 30 colonies by cutting an entrance in the box and taking off the front supports, and honey board and spreading old carpet over the frames, then packing buckwheat chaff around and over them, not less than 6 inches thick; but lost 6 of them. I put 30 in a bee house, lined from 8 to 11 inches with sawdust; and of them I lost 25, by wintering and swarming out in spring; those wintered in chaff did not dwindle like those wintered in house.

I purchased colonies in box-hives in April, increasing my number of colonies to 75; they gave me an increase of 40, and 4,200 lbs. of extracted and 800 lbs. of comb honey. I use the Langstroth hive for getting comb honey; the Kidder hive for extracting.

I think my way of fastening combs superior to any I have heard of. I take bright wire, cut ½ inch longer than the frame, measuring from the bottom over the top to the bottom on the other side, then bend into a clamp; I bend them at right angles on top, so as not to interfere with the honey board. I have them of a good length, so that the lower ends of the wire may rest against the bottom-bar. With a little experience the wire may be slipped on while the

the comb is on the board. It is convenient to have an assistant when taking the wires off. I can drive out and transfer 10 colonies a day, when robbers do not bother.

West Groton, N. Y.

From the Rural New Yorker.

How to Place Sections on the Hive.

REV. O. CLUTE.

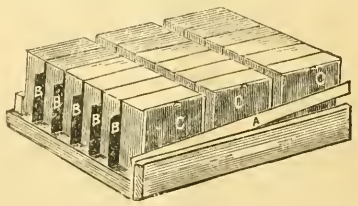
Without denying that, under some circumstances, other receptacles for comb honey may be serviceable and desirable, I think it is generally conceded that the prize section is best adapted for the markets of the larger cities. It is probable that before many years have passed nearly all the comb honey that goes to market will be stored in this, or a very similar section. The method of putting the sections on the hives is a subject of a good deal of practical importance. There are three methods in somewhat wide use.

Those who use a honey-board over the frames, often arrange and fasten the sections side by side, until they make a long box, glass the open ends of this box, and place it on the honey-board, just in the way in which the old 5 lb. boxes are put on. For those who use a honey-board this method will answer, but for the large number who reject the honey-board it will not do.

Another method advocated by some excellent bee-keepers and used somewhat extensively, is to put the sections in cases, or holders, and to hang the cases in a super, just as a frame is hung in a hive. The super, filled with these cases of sections, is set on the hive, bringing the cases immediately over the brood-chamber, with only a ¼ inch space between. At first this seems to be an excellent way. It is easy to arrange the sections in the cases, to hang the cases in the super, and to set the super on the hive. All is done in a few minutes, and everything is snug and tight. But from my own experience I am led to think there are two strong objections to this method.

First, it is not possible to examine easily how work is progressing in the sections. It is important for the bee-keeper to know this, and he needs to make frequent examinations. By this method of placing sections, such examinations are difficult. Take off the lid of the super and you have only the tops of the cases to look down upon. You attempt to lift out one of these cases, but find that it is not easy work. If the cases have been shoved close together—as they ought to be—it is very probable that the bees have glued them together, so that they must be pried apart. Not unfrequently the bees have fastened the bottom-bar of the case to the tops of the frames beneath it, so there is a still greater difficulty in removing it. Hence, by the time you have lifted out a case of sections, you have pretty thoroughly roused the bees and spent a good many minutes of valuable time. This difficulty of examining the sections when hung in cases, would, with me, be a sufficient reason for rejecting this method.

But, secondly, there is another objection, equally strong. When you have lifted out your case of sections and find some of the sections filled and sealed, you want to remove these and replace them with new ones. As soon, now, as you attempt to remove these filled ones, you disturb others only partly filled, and you find yourself in the midst of a difficult and perplexing job, which requires more time and patience than it is profitable to bestow. Speaking for myself and from my own experience, I am sure that this method of placing sections in



Rack for Comb Honey.

cases and hanging the cases in supers is not the best method. If I were a prophet I would hazard the prediction that in a few years it will be entirely given up, except when a small amount of comb-honey is desired from the brood-chamber. In this case there seems no better method than to hang the sections by the side of the brood combs.

The third method of placing the sections is to have a rack made for holding them, which sits closely over the tops of the frames, and holds the sections firmly in place; but by the removal of a wedge, allows the sections to be easily moved, and the filled ones to be taken out and replaced by others. By this method, when the sections are once in place in the rack, and the end sections in each row glassed, the rack can be instantly set over the frames, and there are then as many tight compartments for surplus honey as there are rows of sections, and these compartments come immediately above the

brood. The progress of work can easily be known by lifting off the cap or super and each section is easily reached and removed. This method seems to me far preferable to either of the others.

The sections should always come so close to the top bars of the frames beneath them as to leave only a passage way for the bees between, as this tends to prevent the building of bits of comb between the frames and sections, and the bees will enter the sections more readily when thus close. The fact that there is an entrance to the sections at both sides of every one of them, except the end ones in each row, has a marked influence to lead the bees to enter them and go to work.

Johnson Co., Iowa.

For the American Bee Journal.

Receipts for Honey-Wine and Mead.

J. D. HUTCHINSON.

The following are Receipts for the Honey-Wine and Mead which took the prizes at our Bee and Honey Shows in Scotland. I think they may be of use in America:

WINE—Awarded the first prize at the Edinburgh Show of 1877. Four lbs. of honey and 1 ounce of hops to each gallon of water; boil for 3 hours and skim till clear; when lukewarm add yeast on toast, and when worked, barrel off. Should not be bottled for 12 months; if left in barrel for 2 years all the better.

WINE—Awarded the second prize at the Edinburgh Show of 1877. To each gallon of water add 6 lbs. of candied honey and the white of 2 eggs, with the shells broken up; boil over a slow fire, taking off the scum as it rises. When clear add an ounce of hops to the gallon and boil for 1 hour; strain the liquor, and when cooled to lukewarmness, add a very small quantity of yeast on toast; let it work 2 or 3 days before being put into a barrel, and when it has done working, put in the bung. Bottle it after at least 1 year; if 2 years, all the better, as it is extremely apt to break the bottles. It will be very light in color when first bottled, but the color will deepen with age.

WINE—Awarded the first prize at the Dumfries Show of 1878. To 6 gallons of water add 24 lbs. of honey and boil it until the scum ceases to rise, which take off. Add 3 ounces of best hops and strain into a cooler; when milk warm add 6 tablespoonsful of yeast, well stirred in. When worked for 1 day, barrel it and bottle in 12 months.

WINE—Awarded a prize at the Dumfries Show of 1878. To 6 gallons of water add 26 lbs. of honey, boil for half an hour and skim. Add 4 ounces of hops and strain into a cooler; add the rind and juice of 2 lemons and 6 tablespoonsful of yeast, well stirred in. Let it work for a day and then put into a barrel, into which half a bottle of brandy has first been emptied. Bottle after 12 months.

WINE—Awarded the first prize at the Glasgow Show of 1878. To 6 gallons of water add 24 lbs. of honey, boil for ½ an hour, removing the scum as it rises; add 3 ounces of the best hops, boil 5 minutes and strain into a puncheon or tub to cool; when milk warm, stir in 6 tablespoonsful of yeast, and let it work for 24 hours; barrel off, add ½ a bottle of pale brandy, and then bottle in 12 months.

WINE—Awarded the first prize at the Perth Show of 1879. One gallon of water, 5 lbs. of honey, 2½ glasses of cognac brandy, ¼ ounce of stick ginger (bruised) and 2 laurel leaves. The whole to be well mixed together in a vat, in which it should remain until fermented, and during the process of fermentation to be skimmed twice a day, until it ceases; afterwards the whole to be boiled and carefully skimmed until the surface is clear. It must then be allowed to stand till cold, when it should be carefully strained till thoroughly clear, then should be barreled after adding the whites of 2 eggs with their shells, being thoroughly beaten up, with a slice or two of lemon peel, completely mixed up. It should then be tightly barreled up and allowed to stand in the cask for 6 months before being bottled.

MEAD—Awarded the second prize at the Dumfries Show of 1878. Take a quantity of spring water, fully below blood-heat temperature and dissolve with honey, until the compound will bear an egg up to a shilling breadth. Boil for an hour; add the requisite quantity of mace, cloves, nutmeg, cinnamon, and a root of ginger; mix the whole together with a lemon, a sprig of sweet briar and one of rosemary (the latter two being tied together; after a short boil, let the liquor stand on the spices till next day, then strain carefully through a fine sieve into a clean earthenware vessel; let it remain 6 weeks and then bottle, when it is fit to drink.

Glasgow, Scotland.

From L'Apiculteur, Paris.

Hope for the Depressed.

Is Nature consistent? Does she cause her works to harmonize? As far as those things which concern bees are considered we cannot answer in the affirmative. This year, Nature has caused great quantities of bees to be hatched only to condemn them to die of hunger; so much so that, at the present time, if man does not come to the succor of the bees, the species will entirely disappear from certain regions. Man, then, is the being who, when he is intelligent and enlightened, can harmonize the diverse creations of Nature. From this we should learn that we ought to feed our bees, making them advances which will in all probability be largely reimbursed next season; for if Nature is not consistent she is at least reparative.

Taking the statistics of the past we find that always after a year or two of misfortune and disaster comes a third which greatly repairs the results of the previous evils, and which gives us more honey in one season than three average years put together. We must remember how the disastrous years 1829 and 1860 were followed by the extraordinarily good ones of 1830 and 1861. In our reckoning we shall always remember that in 1861 a set of hives bought at 25 francs a-piece brought us in 60 francs net profit per colony.—*Editor.*

For the American Bee Journal.

The Improvement of Bees.

REV. M. MAHIN, D. D.

Much has been written on the above subject, but it has not yet been exhausted. And its manifest importance demands that it shall be kept before the bee-keeping public. If bee-keeping is to continue to be profitable we must not only adopt the best methods of management, but we must have the best bees that can be obtained.

Our improved methods, and our greater care of our bees, is likely to work the deterioration of our stock, unless we are careful to avoid it by judicious selection. Under the old methods, which left the bees very much to themselves, the weaker and less valuable colonies perished, and only those survived that were able to take care of themselves. Now in our human desire to save the lives of our bees, the weak colonies are supplied with honey from the strongest and more industrious, and are thus carried over the winter to infuse an element of weakness into the apiary the next season; for if queens are not reared from these poor colonies, the drones hatched in them are liable to mate with our queens, and thus transmit their undesirable qualities to their progeny.

Another source of danger is the fact that in rearing queens artificially, we are liable to rear inferior ones. It has been observed that the first queens hatched among a lot of queen-cells are generally the best. If the bees were left to themselves these better ones would alone survive; but we preserve the weaker and inferior, introduce them to our colonies, and find some of them of very little value. Now if we would have the best bees in the world we must remove all these inferior queens, and supply their places with good ones.

But how shall we get good queens? I will not at this time discuss the question of queen-rearing, further than to say that we must rear queens only from the best mothers. Among bees the mother impresses her character upon her offspring much more strongly than the father does his. This being true the mother should possess, in the largest possible degree, the qualities we desire. It is not, in my judgment, desirable to rear queens from a queen until she is a year old. Not that I think that queens reared from a young mother are not as good as those reared from an older one; but we cannot judge of the qualities of a queen until she is a year old or more.

While it is of more importance to rear queens from good mothers than it is to have them mated with good drones, the latter is by no means of small importance, and the bee-keeping fraternity is under lasting obligations to Prof. Hasbrouck for helping us to the successful solution of the problem of fertilization in confinement. I have been more than a doubter on that subject, but I am now fully convinced that, with perhaps some slight modifications as to details, his plan will be a perfect success; and if I live until next summer I propose to try it on a large scale. In this way only can we pursue that judicious system of crossing between different strains and families, not to say races, which can alone give us the best results. If we can control the fertilization of our queens, we may produce strains of bees superior to any now to be found in the world.

I am not sure but that the coming bee will be an admixture of different races, but so carefully bred that it will assume a fixed and uniform type. The best colony of bees I have ever had,

with, perhaps, a single exception, was from an Italian queen that had mated with a black drone. I received the queen from a queen breeder in Tennessee. If I could have multiplied and perpetuated their good qualities I would have desired nothing better, except in the matter of temper, and even in that they were not very objectionable. I would not be surprised if a cross between the Italian and Cyprian bee would give valuable results.

Logansport, Ind., Dec. 6, 1879.

For the American Bee Journal.

Dysentery and Spring Dwindling.

R. DART.

Mr. Taylor, of Oakford, in the JOURNAL for December, gives us all an invitation to reply to his questions.

First, the combs of any hive in winter quarters from which the bees have died, from any cause, will become moldy and damp.

Second, my box hives were always found moldy and damp after loss of bees in winter, having to break them up, and melt up combs.

Third, during the winter of 1870, out of 40 colonies, in box-hives, I lost 21 by dysentery. In the winter of 1871 I lost all but 3 of those remaining in box-hives, by dysentery.

Fourth, for 30 years I have seen more or less of this so-called disease, dysentery—many years before we had bee periodicals, to publish our troubles and losses. I then saw heavy losses from dysentery, but then all used the commonest kind of box-hives.

Mr. Doolittle, on dysentery and wintering in December number of BEE JOURNAL, writes to the point, and has given us about all the light we can get on these subjects.

Mr. Brown's communication in December number of BEE JOURNAL on "spring dwindling," I think does not cover all the ground on this subject. I would suggest that when we carry our bees out of winter-quarters in the spring, and they have had a general flight, that we then set shade boards to the front of the hives, keeping the sun from the hive until the weather is warm enough for them to fly at all times of the day; or after the first flight change the front of hive towards the North, and let it remain so all the summer. I can see no losses of my bees by changing the stands after being in winter quarters 4 or 5 months. When my bees come out of their winter quarters strong, and after the first flight are still strong in number, then spring dwindling commences with me, and goes on all through April, in this climate. Notice the changes of weather in this month: In a partly cloudy day, the sun breaks out for a few moments, our bees rush out and go to hunting over the fields; the sun passes under a cloud and the air is chilled, in a moment the bees drop to the ground, and 9 out of 10 never reach the hive again. These changes are going on all through the month. I think such the greatest causes of spring dwindling, and will affect colonies, wintered in or out of doors.

Ripon, Wis., Dec. 8, 1879.

From the Swiss Bulletin D'Apiculteur.

Experiments with Ether on Bees.

On the 11th of August we again employed on two colonies the method of etherising the bees, our object being to give to each a new queen. The first was a very strong colony, and was removed from its usual stand to another and the bees have not returned to their old location. In the second, which was not moved, the bees refused to accept the queen. On the 20th of August the hive had 4 sealed queen-cells. In July, by smoking the bees, we had already given them a queen which was not accepted; hence our reason for etherising to give them another. We could have caged the queen for 24 hours, but we wished to know the effect of etherisation in this case. Thus two young queens were sacrificed for this colony. This more than ever confirms what our experience had already taught us, viz: that to succeed in the operation of uniting, the colony without a queen should be always given to one that possesses a queen; or, at least, a change of location should take place. A wise precaution is to remove all the brood. A correspondent says:

Wishing to unite the queen and workers of a hive to an orphan colony I etherised the latter, and put it in the place of the former. The operation was completely successful—not a single orphan bee returned to its accustomed spot, with the necessary exception of those which were on flight when I removed the hive, and these were very few. This was on the 19th of August.

The second day after uniting I found that eggs were laid in the royal cells. To-day (17th of September) the queen is still busily laying, for I fed the colony to strengthen it, it having been queenless since the middle of June.

To etherise American hives (in all of which the combs are movable) I employ

a box three centimetres high, otherwise of the exact dimensions of the hive to be operated on. It has two glass windows on opposite sides, so that I can observe the moment when the bees begin to fall. The ether being first placed in this box (about 30 grammes on a sponge, protected with zinc) I immediately put the hive above, and raise it when I see the bees fall. By this means evaporation is more prompt, and the operation presents less danger to the bees. F. EISENHARDT.

For the American Bee Journal.

Bee-Culture vs. Farming, etc.

W. O. CARPENTER.

In the December JOURNAL you have an article, "Is Bee-Culture subject to more failures than Farming or Stock raising?"

This is a very abstruse question, and by no means to be answered in a summary manner; each avocation has its special requirements, and the question is not so much whether the one is subject to more natural failures than the other, but whether both come within the average capabilities of the ordinary run of individuals. "Non cuivis homini contingil adire Corinthum"—only those who strive to acquire great things can reach Corinth—and this is especially applicable to the successful management of bees. The chances are, the same individual would not be equally successful, whether he undertook the occupation of farming or bee-culture. To succeed in bee-keeping, irrespective of having a fair knowledge of business, you must possess a certain aptitude, have more or less a mechanical turn with an inventive brain, quick sight, and good powers of observation, and settle in a favorable location. It is by no means a game of chances.

To succeed in farming, you require another kind of knowledge, altogether apart from that acumen of perception, so necessary for bee-culture. You must be a good judge of stock, (a specialty of itself) and you must have considerable experience in raising and cultivating crops, with a knowledge of the nature of different soils, manures, &c., and their relative application to each individual grain or herb. This information is usually obtained in early life, and you commence on your own account at a suitable age with a full store of farming knowledge. Not so in bee-keeping; it is a science usually commenced at mature age, probably a fancy instilled into the mind by a certain intuitive faculty you feel you possess, but of course it requires some experience and observation, before you can safely launch into it, and before you are really on a par with the young trained farmer just about to commence business. This being accomplished, suppose each enters upon his relative occupation; both well up in their profession; I will suppose each to be first-rate in their respective callings. Query: Which will make the largest return for the capital invested? But to work this out fairly, a given number of colonies, must be supposed to be an equivalent for a given number of acres; and I am hardly prepared to give that piece of statistics correctly, but, say for example, 500 colonies of bees against 320 acres of land; I would then say if you gave the 500 colonies to Mr. Doolittle, and the acres to the best farmer in the State, the latter would stand no chance with him. The Vice President of the Kentucky Convention stated his average for 6 years was $12.35 per colony; can the experienced farmer produce such an average per acre? But it must be borne in mind by all those about to enter upon the business of bee-keeping, that all bee masters are not Doolittle's. The want of science will materially reduce the proceeds, and with regard to the relative failures of each from various accidents of bad weather, &c., if the farmers loses his oats, he perhaps saves his corn or his hay, or some other produce; but the bee-keeper saves nothing! Of course if you place a bungling bee-keeper in competition with a skillful farmer, the farmer will beat him; but setting two men together of average intellect in their respective professions with the average failures from bad seasons, the bee man will have the best of it, unless prices fall to an unprecedented extent.

Lawrence, Kansas, Dec. 8, 1879.

For the American Bee Journal.

How to Obtain Cash for Honey.

JAMES HEDDON.

Every honey producer living where there is a production in excess of home consumption, knows full well the puzzle he is in, after good luck and good management have supplied him with a full crop, to then realize on the same. How long, do you suppose, we shall have to go "hawking about" our product ("in order to build up a taste for it, and make it a staple"), before we can take it to market (in either town or metropolis), and realize cash upon it, at some price, in the *same way* that other producers do for their products?

The peculiarity of this "same way" referred to above, is that the farmer receives that kind of cash that leaves no loop hole open through which he can be cheated out of his pay. The 30 day system called "cash" in commerce, may be a necessity and a safe way for commercial men to deal with each other, as they have reporters, and many other means of determining the responsibility of those with whom they deal, but the producer of grain, vegetables or honey, have little or no knowledge of commercial men, hence the necessity for selling their products C. O. D. (come omediately down). Honey producers are about the only producers of unperishable crops who have to sell their year's accumulations upon the commercial system of 30, 60 and 90 days credit. My judgment is that by a regular concerted action, the bee-keepers may be able to help this matter some, when the time comes that this business ceases to be so excessively profitable that accessions in such vast numbers will be among the things that were, and we can know from time to time who are the honey producers of America.

Dowagiac, Mich., Dec. 10. 1879.

From The Bee-Keeper.

Honey Season of 1879 in Denmark.

J. S. WOOD,
Vice President of Danish Bee Association.

Were rain and flowers all that are requisite to ensure a good honey harvest, we in Denmark could have boasted of such in the past season; but, fortunately, the genial warmth of sun is necessary, otherwise there is no honey secreted in any plant, not even the busy ant is able to obtain its food as honey-dew on the leaves.

As compared with the last 12 to 15 years, this season, taken in general, has been the poorest honey season in Denmark. During the early part of the season there was every prospect of its being what might be called an average one, but as time wore on even the most sanguine began to despair. Swarming period arrived, though late, with no improvement, and it was soon evident that if there was to come a trifle to the bee-keeper's profit, it would be before the heather bloomed, and thus only few would be the reapers, these being the users of frame hives, which, on the heaths, are in the minority. Previous to the heather coming in flower it was whispered in many places that even old colonies were dying of sheer starvation, swarms were already at the starvation point in the middle of June, and many died a little later. This was one grief, but a worse followed. The parent colony of many of these swarms also were lost owing to the young queens not being able to fly out and mate; others when out were lost in their wedding flight, being overtaken by heavy storms, and becoming prey for the birds. The continual moist weather was uncommonly favorable for the forthcoming of midges or gnats; in some districts the number of these were so enormous that they appeared as small clouds, and, in some instances, appeared in columns of 70 feet high, and of a considerable diameter, plainly to be seen at the respectable distance of a thousand feet or so; and where midges are in abundance there we find our welcome summer visitor, the swallow. That our favorite bee fell a prey to them there was no doubt, and how could a mother-swallow refuse or refrain from securing such a fat, dainty morsel for her young as a young queen, for example, that happened to be enjoying her honeymoon? That many were lost in this way was certain, and the loss thus by storm and birds has been double, I might say, the number of young bees hatched; and the result is that apiaries usually giving an average of 50 to 60 lbs. of honey per colony this year have not given a pound; but, on the contrary, required the aid of about 150 lbs. of candy for every 20 colonies to carry them barely over the winter months. In the heather districts the result has been a little more favorable, as the weather cleared up a little at the time the heather bloomed, giving a result in many cases of 20 to 30 lbs. per colony, and in exceptional cases higher. The general expectations were that honey would rise in price, but such is not discernible, owing partly to the surplus of last year, which in many cases has been kept in stock, the cold weather during the summer being very favorable to its keeping so well without fermentation taking place.

There is not the slightest doubt but that the past season will have not only thinned the number of bees, but also, I may say, decimated the colonies by loss of queens alone. The result, of course, will be in spring a heavy falling-off in the ranks of bee-keepers who by last year's good results were expecting to advance, but by this year's work will have come to the conclusion that the keeping of bees is not always sunshine with profit. The more hardened say, "Make the best of it," but above all winter well for the coming year.

Nyborg, Denmark.

For the American Bee Journal.

Extracting Honey from Brood Combs.

G. M. DOOLITTLE.

Many suppose that something must be done in time of box honey, to clear the brood combs of honey to give the queen room to lay, so as to keep up the the population of the colony, reasoning thus: that when bees are working in boxes, as a necessity the brood combs must be crowded with honey, while the truth is that when the bees are at work nicely in the boxes, with a proper hive, there is scarcely a pound of honey in the brood combs. I say with a proper hive, or brood chamber of a proper size. In this there is a great secret of success. Quinby gave, in his "Bee-Keeping Explained," 2,000 cubic inches as the right size of the brood chamber, and told us that there was an advantage in feeding inferior honey in the spring, so as to have the space in the brood chamber, not occupied by the queen, filled with poor honey, thus necessitating the putting of the nice white clover honey in the boxes. This is one way of arriving at the same object that we do with a brood chamber of about two-thirds the size of the one used by Mr. Quinby. By thus feeding, he gave the bees no place to put their honey except in the boxes, and thereby losing the use of this inferior honey for half a year, besides having the boxes separated from the brood by some distance of sealed stores for the bees to pass over, which was of course a detriment; yet he got much more honey in his boxes than he would otherwise. My plan to accomplish this object is to have a hive or brood chamber of a size that an average queen will keep filled with brood to the exclusion of honey, thus keeping the boxes close to the brood, and if any feeding is to be done, do it in the fall. This is not all talk. If you will try it, you will find that the queen will keep the combs in a hive of 1,350 cubic inches filled with brood, and if any honey is to be had from the fields, the bees will put it in the boxes, as there is nowhere else to store it. This is our secret of getting box honey. Now, supposing Quinby had, instead of feeding, extracted the honey from the brood combs every week or so, as some would have us believe we should do to be successful, how much honey do you think he would have obtained in his boxes? Not a pound. Bees will not build comb in surplus boxes so long as there is plenty of empty comb close to the brood to store honey in. Again, you may take a hive of 1,350 cubic inches, and fill it with frames which are full of sealed honey, and put on your boxes. Have a strong colony with a good prolific queen in it, and in 2 weeks' time you will have nearly all of said honey in your boxes. Once more: If you let a first swarm issue from a hive, and keep them from swarming again, by the time the young queen gets fertilized every available cell in the brood chamber will be filled with honey, and still no start be made in the boxes; but just as soon as she commences to lay, the bees will commence work in the boxes; and in 20 days, if you examine, you will find scarcely a cell of honey in the brood combs, and as nice a lot of brood as you ever saw. Now, we will suppose that just as this queen was fertilized you had extracted all that honey, you would not have obtained a single box of honey unless from fall flowers. Therefore, if you want a large yield of box honey, keep prolific queens, and let the brood combs alone after the boxes are placed on the hive.

Borodino, N. Y., December, 1879.

For the American Bee Journal.

Something New about Honey-Dew.

PROF. A. J. COOK.

While at Cornell University, Ithaca, New York, I became much interested in some observations and investigations made by Mr. Wm. Trelease a very talented young man connected with the University, which entirely settles the matter of honey-dew. Mr. Trelease has not only tasted the nectar secreted by the plants, but he has discovered the glands which secrete the nectar. These are often so large as to be easily recognized by the unaided vision. Mr. Trelease showed me the glands on species of cassia, acassia, pasiflora—the May-pop of Alabama—prunes, and the cotton plant. On a fine acassia growing in the botanical laboratory of the University, I not only saw the gland, but also the drop of nectar, which I found sweet to the taste. I had the pleasure, not only of seeing Mr. Trelease's beautiful drawings, but also of viewing the actual cross-sections under the microscope. The usual dermal cells are enlarged and lengthened at the glands. The cell walls seem more thin, while the enclosed protoplasm is much more dense. These glands are on the petioles of the leaves, on the ribs, or on the blade of the leaves. On the Partridge pea which has so often been noticed to be swarming with bees, the glands are large and numerous, and, Mr. T. says, rich in nectar. Let us observe during the coming season, whether the bees get all

their gleanings from these nectar glands, or whether some comes from the flowers as well, and if the latter be the case, let us note their comparative value.

For the American Bee Journal.

Queens Duplicating Themselves.

A. F. MOON.

In the JOURNAL for October, page 449, Mr. J. Anderson says that he has the very queens called for, and makes this statement lest my very strong challenge should cause some to think that no queens exist that will invariably duplicate themselves. A little discrepancy in his article requires a passing remark. He says that some are brighter than the mothers, but will probably be like her when as old as she is. If the daughters are brighter than their mother they are not exact duplicates of her! What will be the color of those daughters that are like the mother when hatched? Or are some of the queen daughters not changeable?

Rome, Ga.

For the American Bee Journal.

Removing Bee Glue from the Hands.

DR. A. B. MASON.

I was a good deal disappointed at not being able to attend the annual meeting of the Michigan State Bee-Keepers' Association, which was appointed to meet at Jackson, Mich.

In the AMERICAN BEE JOURNAL for June, 1876, I asked "is there anything known that will remove bee glue from the hands?" and was answered "alcohol or spirits of turpentine." I soon after accidentally discovered another way. I had been examining all my hives and my hands were pretty badly smeared with the glue. My next job was some repairs in, and whitewashing my hen house. When washing my hands to remove the lime, I noticed they became quite yellow, as did the water I was washing in, and I did not understand what made it, but I soon discovered that the bee glue was nearly all gone from my hands. Since then I keep some slacked lime ready for use during the season when handling bees. I moisten the places that I wish to cleanse and rub with the wet lime till the propolis is removed. If I use much lime, I then moisten my hands with vinegar. This is much cheaper than alcohol, and as I am sometimes called from work among the bees, to work at some one's mouth, I am not annoying my patients with the fumes of turpentine.

The National Convention.

I have read the proceedings, &c., of the North American Bee-Keepers' Convention, with a good deal of interest, and I believe with a considerable profit.

I have watched the JOURNAL, for years, for a successful method of introducing virgin queens, and when I saw the heading of the Rev. M. Mahin's paper on page 526 November number, I thought, "of course we have it at last." I shall try his plan next season. I introduced a few virgin queens, in the summer of 1877 after the plan suggested on page 189, August number 1875, and page 190, July number 1876, by Wm. C. Pelham, and in every instance with success, except in one colony in which I found a queen the next day. I used cells made as described in the July number, 1876.

Toledo, O., Dec. 10, 1879.

For the American Bee Journal.

How I wash out Drone Brood.

W. H. SIEBRECHT.

I have been very successful during the past season, in washing out drone brood from the comb, whenever I did not desire to have it, with a very simple and handy sprinkler that I think

every apiarist should have. I find it a great deal better than a hose or any thing else. All that is required being a basin with water with which to fill the sprinkler and into which the brood may be washed out. I should like to see it illustrated in the BEE JOURNAL, for I think it would be considered valuable by all apiarists.

Astoria, L. I., August, 1879.

[We have procured the above engraving of this sprinkler and we can fill orders for it, at the manufacturer's price—one dollar. To use the sprinkler, compress the bulb, thereby expelling the air; then put the nozzle into water, and it will fill itself.—ED.]

Conventions.

Lancaster County, Pa., Convention.

The Lancaster county Pa., Bee-keepers' Association met at 2 o'clock Monday November 10th, at Lancaster, Pa.

Reports.

Reports on the past bee season having been called for, the following members responded:

J. F. Hershey, of Mount Joy, who is one of the largest bee-keepers in the county, said that the present season could not be regarded as a very successful one. In the early part of the season the conditions were favorable. There was an abundance of flowers and the bees stored the nectar rapidly. This state of things lasted until haymaking, say about June 20, when the dry spell came on, and from that time until the present the little honey makers were unable to do much. The season is now over, and the honey crop has been gathered. It may be regarded as about half an average yield. This is not the case in Lancaster county alone, but seems to be the prevailing condition of things the whole country over.

But there has not only been a poor honey season; many colonies are in a poor condition to go into winter quarters. Cases are reported where colonies have already starved, not having gathered sufficient to last them until now. There is no question but that many bee-keepers will have to feed at least a portion of their bees during the approaching winter. An average colony will consume about 20 lbs. of honey or its equivalent between the time when the honey season closes and the 1st of May. Where a considerable number have to be fed this will be quite a tax on the owners.

The Italians, as usual, have done better than the native black bees. The former have in almost every instance filled the brood-chamber and commenced work in boxes, although sometimes the black bees have done the same.

The increase in new colonies has averaged about 63 per cent., which is less than the average, but Mr. H., gives more attention to rearing queens than to honey or swarming. He started with 62 colonies last spring. He reported having reared 200 queens realizing $225.00 from this source. He also got about 650 lbs. of honey, and sold 5 colonies, and now has 72 colonies with which to go into winter quarters. All his own colonies have plenty of honey. He will winter them in the peculiar house, half underground, already described in former reports.

He also made remarks on wintering bees. This is one of the most important points in bee-keeping. Each colony should be carefully examined before it is put into winter quarters, to ascertain whether it has honey enough and bees enough. If it is too weak in bees, then unite them with another; if short of honey, feed it. Food is prepared by taking 2 lbs. of ordinary coffee sugar and 1 lb. of water, and bringing them to the boiling point.

Protect your bees from the north and west winds. Take off the honey boxes and put an old quilt or blanket on the top of the frames, and place on a cap of straw. Place a protector on the alighting board, to keep the sun off from the entrance when there is a loose snow on the ground; if there is no snow on the ground, take the protector away from the entrance and let the bees have the full benefit of the sun's rays.

Never disturb bees when it is cold. If bees are long in confinement when there is a loose snow on the ground, and there comes a warm day—warm enough for the bees to fly—take away your protector from the entrance, to allow the warmth of the rays to fall directly on the entrance. Scatter straw in front of the hives on the snow, for the distance of about 15 feet from the hives, for the bees to alight on, in case any should drop down from cold or other cause.

So soon as the weather becomes warm and bees fly freely, all colonies should be examined to see whether they have queens. If some are queenless, unite the colonies with weak ones that have a queen. Cage the queen about 12 hours after the colonies are united, as they will sometimes kill her when 2 colonies are put together, Colonies that are short in honey in the spring, ought to be fed, for they require a great deal of food to supply the brood in March and April. They consume more honey at that time than during the 3 winter months.

Mr. Samuel Dillman, of New Holland, presents the most favorable report so far heard from in the county. He had 17 colonies last spring. He has by judicious swarming increased these to 24, and got besides 800 lbs. of honey, nearly all comb.

W. B. Detwiler, of Mt, Joy, started with 75 colonies last spring. These have now increased through swarming to 100. He got from them about 800 lbs. of honey. All his bees are in good condition to go into winter quarters.

Other bee-keepers were reported as having done about the same as those who reported personally. Rev. S. S. Henry, of Hinkletown, began with 2 colonies last spring and by natural increase now has 7 colonies. He increased their numbers largely, but the consequence was he got hardly any honey.

C. Sensenig, of Earl township, began the season with 4 colonies, which increased to 16, but he got no honey.

Another bee-keeper was reported as having taken 327 lbs. of honey from 15 colonies; one of these yielded 55 lbs.

I. G. Martin, of Earl township, started into the honey season with 20 colonies. These have increased to 30. From these he has taken 660 lbs. of honey of excellent quality. His colonies are amply supplied with honey for the winter's consumption. He will put them into winter quarters on the summer stands, as is his usual custom, with a protection of chaff.

Mr. Martin presented the following interesting paper:

Hints to Beginners.

In writing a few remarks upon bee-culture I wish to state in the outset that I shall not perhaps present anything new to many of the members, but I will offer a few hints to beginners. The old opinion which ought by this time to be entirely exploded, that bees will take care of themselves and bring us large returns for little or no investment of capital or labor, is still a stumbling block to prosperous bee-keeping. Added to this are the misrepresentations of unscrupulous dealers whose advertisements are sure to mislead the uninformed.

None of us like to tell of our failures or of bad years before the public, and consequently the reports in the papers usually show only the bright side and large yields. Ignorance of the business then is the fault of a large proportion of ill success. What then is essential is a thorough knowledge of the business—plenty of application and hard work. Much useful information may be obtained by reading the best words and papers on the subject, but actual practice in the apiary is indispensable. Many persons are naturally unfit for the business from carelessness and inaccuracy about their work. I know of no out-door work where so much depends on the right thing being done at the right time and in the right way.

Avoid the common blunder of rushing into bee-keeping just after there have been one or two good seasons. The fact is that an extra good yield is usually followed by a very moderate or poor one. Beginners should purchase but a small number of colonies at first, and the bees will increase as fast as their knowledge will increase. Buy always the best that can be found, even if they cost more; for it will often pay you the first season. Spring is the best time to buy, for then they are through the winter and you have not much risk, and they will then soon be a profit to you. Use some good movable-frame hive, for with the box-hive the best results cannot be obtained.

A very great hindrance to handling the bees is the fear of stings. Every beginner should supply himself or herself with a good bee-veil, which will protect the face, and a good bellows smoker is as necessary for the bee-keeper as a plow is for a farmer. The extractor for removing the honey from the combs without injuring them, is a very important implement, for then you can use the combs again, and it will increase your yield of honey.

Use comb foundation for the brood-chamber, for it will insure all worker-comb, which is of great importance. A piece of drone-comb 2 inches square, in the center of the brood-chamber, is a small thing, yet it is a space in which every 21 days 200 worker bees might be raised, and in which they will raise a lot of drones, which are not producers, but consumers of honey.

I have but mentioned some of the necessary fixtures of a first-class apiary, without which success cannot be obtained. But do not make the mistake of thinking that if you get these fixtures you are sure of success. They are only aids and it will take work and knowledge yet to get the full benefit of your work.

The merit of the Italian bee are thoroughly established among enlightened bee-keepers. I cannot now mention all their points of superiority, but I would advise all beginners to buy the Italians.

Comb Foundation.

The following letter was addressed to the chairman of the Association:

Sprout Brook, N. Y., Nov. 6, 1879.

Presuming all appliances tending to advance the interests of the bee-keeping community will be welcomed at your meeting, we send you samples of flat-bottom comb foundation for distribution to your members. We have used the thin foundation this season in surplus boxes full sized sheets one-sixteenth of an inch from the sides, and from one-quarter to one-eighth of an inch from the bottom, adding thereby largely to the yield of honey, and also to its market value. The wired-foundation has also been used with good satisfaction during the past season. J. VAN DEUSEN & SONS.

There being no further business, the Society adjourned. The meeting was very pleasant and interesting, and it seems a pity that bee-keepers take so little interest in such gatherings.

Southern Kentucky Convention.

The Southern Kentucky Bee-Keepers' Association met at Edmonton, Thursday, October 2, 1879. The president being absent, Hon. J. F. Ray was called to the chair. Twenty members were added to the Association.

The chairman appointed the following committees:

On the State of Bee-Culture—J. D. Davis, Jo. Allen and F. Reed.

On Questions for Discussion—Dr. N. P. Allen and A. J. Courtney.

The following officers were elected for the next year: J. D. Davis, Cumberland county, president; C. W. Thompson, Metcalfe county, vice-president; Dr. N. P. Allen, Warren county, secretary and treasurer.

The committee on the state of bee-culture reported the following, which was approved: We, the committee appointed to report on the state of bee-culture in southern Kentucky, would say that the past season has been in an unusual degree unprofitable to the bee-keeping interest, in consequence of the excessive drought that has extended throughout the entire region; but, notwithstanding the poor season, we do not see that the interest in this direction has in the least degree relaxed, and since the drought has abated, the colonies, so far as our observation has extended, have been rapidly filling up, and we believe that the bees in this region will go into winter quarters in as good condition as usual.

What Hive is the Best?

Messrs. Courtney and Yates advocated the use of the Golden bee hive.

Dr. Allen and J. D. Davis were in favor of using the Langstroth hive, in preference to all others.

The Best Time for Transferring?

Mr. J. Allen said about the time the peach and apple bloom opened, but that he transferred at any time during the year it suited him.

Dr. Allen said that early spring was the best time, as there were less honey and brood in the comb then. He preferred the beginning of the honey harvest, and said bees were often destroyed by being transferred too early in the spring or too late in summer.

What is the Best Feed for Bees?

A. J. Courtney said that syrup, made of New Orleans sugar and honey, was the best feed.

J. D. Davis said he fed his bees on sealed honey from rich colonies, and that they required but little food, as he never took the honey too close.

Dr. Allen said that he had not been so fortunate as Mr. Davis, but there was a great deal in management. He said that his preference for artificial feed was New Orleans sugar syrup, with a little cream tartar or apple vinegar in it to keep it from granulating; that capped honey was the best, as it contained more or less pollen, especially if taken from near the brood-nest. For pollen he fed rye-meal, but his idea was always to keep his bees rich in honey, for thousands of bees are ruined by being robbed too close and too late in the season.

Moving Bees.

Dr. Allen gave his plan of moving bees short distances. He said they could be moved a few feet or a few rods any time during the warm weather in the following manner, and the bees would not return to the old spot where the hive was moved from: Place an empty box on top of the hive, and drive the bees into it by knocking or drumming on the hive for 10 or 20 minutes. Set the box off, near or on the spot where the hive stood; raise it a little in front, to make an entrance for any bees that are on the wing to enter the box. Then remove the hive to where you want it, and place a board or cloth in front. Carry the box with the bees in it, shake them in front of the hive, and run them in as you would a new swarm.

What are the Profits of Bee-keeping?

Quite a discussion by several members was engaged in, and 100 per cent. was agreed on as the average of a colony of bees, properly managed, in a good locality for honey.

Resolutions.

On motion, the thanks of this Association were tendered the citizens of of Edmonton and vicinity for the use of the church in which to hold the meetings of this Convention, and for their kind hospitality in furnishing a sumptuous dinner on the ground.

On motion, the secretary was requested to have the minutes of this meeting published in the *Farmers' Home Journal* and the BEE JOURNAL.

Dr. Allen was elected a delegate to the National Association, at Chicago, Ill., on Oct. 21st, 22d and 23d, 1879.

On motion, the Convention adjourned to meet at the Exposition building, in Louisville, Ky., on the second Thursday in October next, at 10 a.m., for the purpose of dissolving this Association and organizing a State Bee-keepers' Association; and that the secretary give notice of it in the State papers.

N. P. ALLEN, *Sec.*

From Bee-Keepers' Instructor.

Central Ohio Convention.

The November meeting was held at Circleville, Ohio, on the 19th, N. Julian presiding. The minutes were read and approved. The attendance being small, the discussion of the question previously announced was posponed to next meeting.

Henry Culp, of Hilliard, Ohio, J. W. Newlove, of Columbus, O., and S. N. Oldham, of Reynoldsburg, O., were appointed a committee to confer with the Ohio State Board of Agriculture, in regard to establishing an Apiarian department at their annual fair. After transacting some other unimportant business, the Association adjourned to meet in Chillicothe the third Wednesday in January, 1880, when the question appointed for this meeting :—"Who should keep Bees ?" will be discussed.

N. JULIAN, *Pres.*

S. D. RIEGEL, *Sec'y.*

Michigan State Convention.

The Michigan Bee-Keepers' Association met pursuant to call, on Dec. 10, in the Court Room at Jackson, Mich.

Pres. A. B. Cheney not being present, the Secretary called the meeting to order and Dr. Samuel Stevenson, of Morenci, was elected Chairman, *pro tem.*, who opened the meeting with a few well chosen remarks and proceeded to business.

The Secretary read the following essay from James Heddon, of Dowagiac, Mich., on

Prospects of Bee-Keeping.

I regret not being able to enjoy a pleasant visit with you, such as we always have at these conventions, other than which I (like "Novice") can hardly see the value of them. I would suggest that the question of "Supply and Demand," which so much affects your first topic for discussion, viz : "Prospects of Bee-Keeping," be fully canvassed. I would prefer the topic to read : "Prospects of Bee-Keepers." If they keep a sharp eye on their interests, the pursuit will take care of itself. I mean bee-keepers that *now exist.* If this Convention is a honey-producers' Convention, it has no more to do with the honey-producer that *is to be*, than with the pursuit of blacksmithing.

I hope to see in your report, that you have taken into consideration the marketing and prices of our uncertain product, and that you remembered that lumber has advanced, and is going still higher; that nails, glass, tin, &c., are nearly double prices; that wages are advancing (and justly so); that nearly all which we have to buy is on the "boom," and that it becomes necessary that we "boom" also. Many bee-keepers sold their crop of comb-honey at 12½c. per lb., and one party near here sold beautiful comb honey at 8c., net weight. Had there been a full crop the world over, these sales would have been a precedent, and would have fixed the prices you and I would have had to take. But the scarcity in the Old World and California, as well as the very light crops about us, proved our salvation from these starvation prices. I am at present holding four-fifths of my crop till spring. I have sold the culls of my crop and some odd-sized frames, and so far have realized 18½c. per lb. above all expenses. Extracted does not go above 10@12½c. per lb. by the barrel, according to grade. Comb honey production pays best, by all odds, this season.

Dried apples, prunes, and many other kinds of sour sauce having more than doubled in price lately, attention has been turned toward "sweet sauce." Sugars, butter, &c., being higher, honey must advance—it *is* advancing. With proper management on the part of the honey producers of to-day, we may look for good prices for honey raised during 1880. Though I deal in supplies, my whole soul and interest is with the producers (of whom I am one), and that you may obtain large crops, and that farmers, carpenters and blacksmiths will also do first rate *at their legitimate pursuits*, is the earnest desire of your fellow bee-keeper, JAMES HEDDON.

P. S.—I hope there is no supply dealer present, whose goods are so non-useful that he must create a raw apiarist in order to find a customer. J. H.

Erastus Weeks, of Jackson, said he felt inadequate to the comprehension of so vast a question; but he would say that while prices have had a downward tendency for the last few years, still, with his present facilities and knowledge his profits were better than formerly. He regarded the present outlook as encouraging to those who were masters of their business and had such pasture and capital as the successful prosecution of any business required. Many of the farmers had lost their bees and the low price of honey would do much to prevent men without experience and capital from further investment. He was convinced that nothing but the stern hand of Providence could stay the advance of progressive apiculture.

S. C. Perry, Lansing, regarded the

industry as in a healthy condition when compared with other pursuits.

C. B. Smith, Leslie, thought bee-keeping no more uncertain than raising wheat or stock.

Do Bees Winter best when Crowded on a few Combs in a Roomy Hive?

The Secretary read two essays on the above subject; the first, from Rev. A. Salisbury, Camargo, Ill., as follows:

The question: "Do bees winter better crowded on a few combs, or in a roomy hive?" should be answered in the affirmative. Bees winter better on a few combs, than many. Where they spread out all over the hive they largely lose the effect of the animal heat upon one another, small groups in the extreme part of the hive are lost the first cold night that the mercury sinks 10° below freezing. There is no settled rule as to the correct number of frames that a colony of bees should have when put into winter quarters. The number must vary in proportion to the size of the colony. In a small, or medium-sized nucleus, three frames of honey, hung in the center of a standard hive, one inch between the combs, allowing the bees to cluster on the center combs, and then placed in a good warm cellar with a temperature of 45° or 50°—success is almost certain. No cushion is ever needed in a good cellar. Small colonies must have a warmer temperature than large ones. A few frames should never be placed in a correspondingly small hive, just large enough to hold the frames. The vapor arising from the bees, that should condense remotely on the outer walls of the hive, is confined among the bees, unless well cushioned, and cushions are necessary only to correct blunders already made.

In proportion as bees live through the winter in a damp, cold hive, dysentery and spring dwindling is a legitimate result. I have 100 fine tested queens for early spring use—bees with queen, on from 3 to 4 frames, hung in the center of a standard hive, and in winter quarters, and results will be no doubt as heretofore, satisfactory.

From R. M. Argo, Lowell, Ky.:

The above question will only admit of a conditional answer. If the question had been "will bees winter better in small than large hives?" from 20 years experience I would say that they will winter better in small hives. An average colony of bees crowded on a few combs with sealed honey on the top and ends of each comb, with the brood-nest, or lower part of the center of the frames, empty, and with winter passages cut through each comb, will winter far better than in a large and roomy hive; but, if the large and roomy hive should be very tight, admitting of no upward ventilation, and filled with combs at least 3 years old, with sealed honey, and the lower part where the bees cluster should be empty, and sufficiently so for a large cluster, they will winter about as well as in a small hive. The hive being full of sealed honey above and around, the cluster will form what is almost equal to dead-air spaces. If crowded on a few combs in a large hive with open space either at the side or above, they will hardly winter at all; but if these few combs with the above conditions are placed in the center of a large hive, with a partition board at each side and a cloth spread over the top of the frames, and the empty space on the sides and above filled with dry straw, fine hay or chaff, they cannot be wintered better, either in cellar or on their summer stands. This is equal to wintering in a straw hive and I have found it to excel packing the hives in straw on their winter stands. I must be understood as speaking of wintering on summer stands as I have never tried cellar wintering.

I have successfully wintered four colonies for the past 8 or 9 years in a large double-floored and double-walled box 2 feet deep; the top being also double-walled. These colonies remain there the year round, and I wish I had my whole apiary in such boxes.

"Will the natives or the Italians winter the best without protection or feeding in the fall?"

This question was answered emphatically in favor of the Italians in 1868, the worst honey year I ever experienced, except the present. Now, I wish all to take an impartial survey during the coming winter and report at the next meeting. From a close inspection of bees in my neighborhood during the last 6 weeks, I predict that where no feeding was done no natives will be alive in April. As my neighbors are not feeding their bees, I anticipate a splendid opportunity for rearing pure queens next season with no native drones within 10 miles. I purchased 4 colonies of black bees last season and Italianized three, forgetting one, and that one had not a pound of honey a month ago. I united the bees with an Italian colony. I had 41 colonies at home and 14 in the country, which I have reduced to 54 as put up for winter. I had to feed about half of them; those that needed none were generally the purest colonies. Some years the blacks will do as well as the Italians

and by being assisted, will winter better; but such years as this, is the time to make a fair test. Many may differ with me, but I would like them to report briefly their experience and observation, in the AMERICAN BEE JOURNAL, next spring.

Bees are on the wing to-day (Dec. 2d,) and have been almost every day up to this time, here in the center of the State.

Mr. Perry said he found bees to winter best on a few frames with chaff cushions taking the place of the combs removed.

The President had found very little difference in his opinion.

The sense of the Convention was that bees were likely to winter well with proper care.

House Apiaries and Cellar Wintering.

The Secretary read the following essay:

"Do house apiaries winter bees as well as cellars? I think not. House apiaries, I presume, are much improved since I used one. Nineteen years have elapsed since I abandoned the house apiary. Twenty-one years ago last spring, I built the first house apiary I ever saw, or heard of. It was so constructed as to hold 56 hives of bees; it was 32 feet long, and 10 wide, with a 7 foot story; the lumber dressed, and it was well painted. I used it 2 years and then abandoned it as a house apiary, and fitted it up for a honey house, and still use it as such.

It seemed to be defective in several particulars: First, the bees were too cold in severe cold weather; the wall being only single. Second. It seemed to be too cool in early spring, to facilatate brood-rearing, as rapidily as colonies in the open air that received the rays of the sun on fine days. Third. The worst of all were its summer defects. The first colonies that filled their hives with bees clustered on the wall of the house, the bees from adjacent hives, on their return from the fields would light upon the clustering bees, on the wall, and one colony grew too strong, while others became weaker.

My experience in cellar wintering dates back only 15 years. During that period, the average number of colonies put into winter quarters, I suppose, has been about 150 per annum. The loss has been so slight, up the present, with all that were in a fair condition for winter and put up at the right time (Nov.) and taken out at the breaking up of winter, that I feel perfectly satisfied. Last spring I lost about 50 out of 285 colonies, by spring dwindling. These were, with others under the care of a hand 6 miles from my house, they were left out until the coldest weather in January and then were brought home on the snow, and put into the cellar, full of ice, which ran out in streams of water as it melted. Life was shortened by a cold damp hive for the balance of the winter, the old bees disappeard before young ones were reared to take their place. Three things must be observed in the successful wintering of bees: Food, heat and air. The great epidemic (bee cholera, or dysentery) is doubtless produced in the absence of a proper amount of heat, but never in the heat of summer.

A. SALISBURY.

Mr. Perry, said he was troubled about transferring bees and buying wax, but found that cellar wintering, last season, furnished more wax than all other methods combined.

Mr. Martin, Hesperia, lost 80 out of 100 colonies last season. They were wintered in the cellar, but dwindled in April.

Mr. Easton, Albion, had kept bees 40 years, but had used modern hives only 2 years. He thought chaff packing preferable, and wintered in that manner 54 out of 55 colonies, last season, and has 100 in chaff now, and expects to safely winter them.

Mr. C. B. Smith favored using chaff.

Mr. Perry said wherever he had found an apiary where bees were wintered in chaff, he never found wax for sale.

President Stevenson, had used chaff 4 years and had lost only 5 colonies.

J. H. Robertson, Pewamo, had wintered for years in a cellar, and believed it to be the safest, cheapest and best means now known for wintering bees. One winter water stood in his cellar more than a foot deep and his bees never wintered better. He took no stock in the theory that damp cellars would not winter bees. One of his neighbors, S. K. Marsh, wintered 80 colonies without loss with 2 feet of water in his cellar all the winter.

J. Butler & Son, Jackson, gave their method of wintering in chaff for the last 10 years. Their experience shows that they have wintered almost without loss during all the winter trials of the last decade. They said they would not take the best house apiary, winter depository or cellar, ever made, as a gift to winter bees in.

Mr. Robertson, remarked that the chaff hives of his neighborhood were mostly of the common type, and they had been essentially a failure in wintering bees

Mr. Hanchet, Leslie, said he had used chaff exclusively, but now had some in chaff and some in the cellar.

John H. Van Ness reported that he put all his hives of bees together and packed straw all around, above and below them about a foot deep, and there was not a dead bee in the hives in the spring. His bees were all through swarming by the time others that had been wintered out of doors had commenced to swarm.

At this juncture Mr. O. J. Hetherington, who had been to the depot to escort Mr. T. G. Newman to the hall, entered with the distinguished visitor and honorary member. After a hearty hand-shaking from his numerous acquaintances, the President formally presented the jolly, world-renowned editor of the AMERICAN BEE JOURNAL to one of the largest gatherings of practical bee-keepers every assembled in Michigan. He made a few happy remarks which were enthusiastically received. He said he was glad to meet with an Association, whose reputation was world wide. In Europe as well as America, the Michigan Convention had a distinguished reputation.

The Best Bees.

The topic "Can America breed the best bees, or must bee-keepers continue to import?" was enlarged so as to embrace the next topic, viz.: "The effects of close breeding."

Mr. Robertson, said the Italians were a great improvement and he believed America could sustain their reputation. There were so many black bees, it was difficult to keep an apiary pure, but he thought from what he had seen of the past season's operations, that black bees would be less in number and less troublesome next spring.

Mr. T. G. Newman, stated that he took American bees to Italy and they were pronounced by experts more beautiful than they had ever seen before. Mr. Newman said that he had no doubts as to Americians breeding the best bees. Her progressive bee-keepers would never remain in the back ground with an enterprize in which the whole world was interested. Much had been said about "the coming bee," and "the next progressive step" in the production of "the bee of the future," but he thought "the finger of destiny" was pointing to *apis Americana*, as the one that would satisfy the expectations of those that were longing for the best race of bees. He did not know but that the Cyprian race would form an important part in its production, but whatever it was, the coming bee, when produced, would be strictly American. He was asked about the comparative temper of bees, and remarked that it was generally admitted that Italians were best natured; after them pure blacks, and that hybrids were usually the least tractable. The numerous cases of fatal stinging of careless and ignorant people and horses, induced him to say that no one was justified in keeping bees without always having at command the means of controlling them. Smoke would control the most viscious hybrids, if applied promptly and in abundance. Any good smoker would answer—but he recommended the Bingham Bee Smoker, as the best yet produced.

Mr. J. L. Curtis, of Grand Rapids, favored the Italians and believed they could be improved by selection and careful breeding.

Mr. J. H. Robertson wanted as pure Italians as he could find.

Mr. Butler said that if he was to send comb honey to the Centennial, he should have black bees do the work; he believed they made the prettiest comb, but Italians take the best care of their homes.

Mr. Geo. Stray had 50 colonies of Italians and 100 of blacks last winter. The Italians died, and the blacks all wintered finely.

Dr. C. F. Ashley, Ypsilanti, expected America to hold her own and breed the best bees. Prof. Hasbrouck had demonstrated that both queens and drones could be selected and as in other stock the males determine the progeny; he regarded the drone as a mighty factor in the improvement of the honey-bee, and believed America could and would produce the best bees.

Mr. Newman said that if careless breeding was to be continued we must also continue to import. But if we breed from the best, under the best conditions, improvement is absolutely certain.

Mr. O. J. Hetherington, of East Saginaw, said Dr. Whiting removed black larvæ from queen-cells and substituted Italian and obtained splendid queens.

Mr. J. H. Townley, of Tompkins, selected his cells and queens by letting the bees swarm naturally. In that way he obtained the best, every time.

Mr. Prentiss, of Ohio, remarked that to improve our bees we must select from those which fill their hives with combs, honey and brood, the quickest.

Mr. T. F. Bingham then read the following essay on:

Close Breeding not Detrimental to Insects.

In the absence of evidence to the contrary I shall assume that all insects dwelling in families like ants, whose

lives are necessarily circumscribed do mate closely. A careful examination of any of the numerous families of ants will justify the belief that they have not deteriorated and that they are the same strong, industrious and orderly insects of which Solomon said: "Go to the ant thou sluggard; consider her ways and be wise."

From the fact that wasps and hornets only a few days or weeks old, lay eggs when from any cause their nest is deprived of the old mother, is it not reasonable to infer that they too mate closely?

This probable close mating holds true of many of the birds and wild animals. One of which, our domestic pigeon, when raised from single pairs, will not usually mate at all, if only one of the eggs of a litter hatches and only one bird matures.

It is also well known among pigeon hunters, who keep birds for decoy purposes, that the females will lay eggs in confinement which do not hatch, though males are confined in the same cage with them. From this it may be inferred that birds laying only two eggs in one litter, hatch mates, and if not so mated will not as a rule mate at all. No one who has observed the great strength and wonderful beauty of the different varieties of domestic pigeons would for a moment believe that they had suffered from close breeding, or that the dove Noah sent from the ark in pursuit of land, surpassed in strength, symmetry and beauty the wonderful doves of to-day.

From the fact that our best bees come from circumscribed limits, it is reasonable to infer that these best bees have not suffered from close breeding, but on the contrary have become what they are, by close breeding!

Assuming, then, that the close breeding of insects is not detrimental, but beneficial, and absolutely necessary in the production of fixed types, it is easy to see that any skilful apiarist may, by careful selection and close breeding, readily produce in his own apiaries a comparatively fixed race of bees, possessing those peculiar virtues which as a specialist he most desires.

T. F. Bingham.

Mr. Bingham then stated that in the North American Convention at Chicago, Mr. E. J. Oatman, of Dundee, Ill., stated that he had made marked success in breeding out the swarming instinct by breeding only from those colonies, which under ordinary circumstances showed no disposition to swarm. Whatever a specialist might wish to obtain, seemed quite within his easy reach; whether non-swarming, honey gatherers, non-stinging, hardy winterers, comb builders or bees of fancy color. The tendency to sport or vary make the Italian bee especially adapted to special improvement. The Italian bees are undoubtedly hybrids, and the best evidence is found in the fact that they will not duplicate themselves. I would admonish all to make their bees just as they desire and to try to make them as famous, by judicious, close breeding, as Hammond has made his American merino sheep.

Best Paying Method of Securing Honey.

Mr. Newman, stated that single-comb sections sold the most readily and at a much higher price. Extracted sold best in small packages, such as kegs, cans, jars, &c., and brought a higher price than when put up in large barrels.

Mr. Stray said he could get more from his apiary by getting his honey in small sections, he could get nearly as much honey as with the extractor; it was of more ready sale and better price.

Pres. Stevenson also favored sections. He could sell any quantity at good prices, but had little demand for extracted honey.

Mr. Newman said the low prices of last season had stimulated the market and brought honey to the front and people would have it, if it was put up in desirable packages.

Mr. Hetherington said he took nearly all his honey in prize sections. Only extracted to give the queen room.

Mr. Townley thought he could get more money with the extractor.

MORNING SESSION—Dec. 11.

Pres. Stevenson having been called away, Mr. Erastus Weeks, of Jackson, was chosen President *pro tem.* He announced that the next business in order was the election of officers for the ensuing year and the selection of the next time and place of meeting.

The following officers were elected:

Hon. A. B. Cheney, Sparta Center, President.
Dr. C. F. Ashley, Ypsilanti, 1st Vice President.
Geo. L. Perry, Lansing, 2d Vice President.
T. F. Bingham, Otsgo, Secretary.
O. J. Hetherington, East Saginaw, Treasurer.

Lansing was selected as the next place of meeting and Dec. 8, 1880, as the time.

Prof. A. J. Cook, S. C. Perry and Daniel Stevens, of Lansing, were appointed the committee of arrangements.

A committee on Resolutions were then appointed, consisting of T. G. Newman, O. J. Hetherington and S. C. Perry, who after retiring reported resolutions expressing the gratitude of the Convention to the City of Jackson, for

its hospitality and the invitation sent to the members to visit the State Institutions, and also for the free use of the court room; to Erastus Weeks for his disinterested labors in arranging for hospitable entertainment.

Bee-Keeping in Northern Michigan.

The reports of two members of the committee appointed at the last meeting regarding Northern Michigan as a location for bees were then read:

MR. PRESIDENT.—In regard to bee-keeping in Northern Michigan, my own observation do not extend much north of this county (Montcalm). There are good locations in this county for bee-keeping, and a number have made quite a success of it. It has been very dry here this summer, so of course, bees did not do very well. Some increased in the ratio of from one to three. Where they increased that much, I think there are many colonies that did not store enough honey, and that they are too weak to winter well.

One man told me that he started, last spring with 18 colonies, 1 of them was queenless. He obtained 1,500 lbs. of extracted honey and increased to 60. I have a report from N. S. Graham, Esq., living on the north line of Osceola Co., just south of the belt of pine, skirting Clam river. He thinks that section is admirably adapted to apiculture, and that Italian bees will do well there. For pasturage there is maple, basswood, alder, raspberries, kanker-wood, fire-weed, and other wild flowers in great abundance. They gather a large quantity of honey from the fire-weed, which extends for miles. Where the pine has been cut the low marshy land is covered with flowers that bloom till late in the fall. He thinks bees do best there in the fall. They increase so fast that they will soon have more bees than pasturage, and they will have to divide into different apiaries. It is a fine farming country and honey plants may be raised if necessary. One year ago last spring, he started with one strong colony and another weak one; he increased to nine strong ones. This summer each one swarmed three times and now their hives are full of honey for winter. He thinks if there is a failure anywhere, it will be in wintering. But if they are properly prepared and given the right care, they can be wintered as well as in other localities. He winters in a dry cellar; has a pipe running through the floor, connected with stove pipe above.

We winter ours on summer stands in boxes packed with wheat chaff; but to make a success of bee-keeping, in northern Michigan as well as elsewhere, one must know what to do, and do it at the proper time.

I regret that I cannot be with you at the meeting. I hope you will have a very interesting time.

LAWRENCE C. LINCOLN.

Mr. Geo. E. Steele, of Elk Rapids, Mich., reported as follows:

MR. PRESIDENT,—At the last meeting of the Association in Grand Rapids, Messrs. L. C. Lincoln, of Greenville, Henry Palmer, of Hart, and myself, were appointed a committee to gather facts as to the probabilities of Northern Michigan for honey production. Just what is meant by "Northern Michigan" is not certain, but if Montcalm and Oceana counties are not far enough north, surely Antrim county must be. The earliest settlements in this region bordering Grand Traverse and Little Traverse Bays, were made at Little Traverse, Charlevoix, Old Mission, Elk Rapids, Northport and Traverse City, consequently it is in the vicinity of these villiages that we must look for the earliest importations of bees; and should expect them to be foremost in providing cultivated forage plants. We are not informed as to the first bees kept in that region, but the last 10 years would certainly include most of them; even now they are rare tenants on our most cultivated farms. Farmers would as often think of bringing home from town a pound of candy for their children than a pound of delicious honey. Honey, you know, is only for sick folks to take medicine in! Candy is made in Chicago of sugar, flour and poison, and is brought a long ways, and we often prize things according to the number of miles they have traveled.

On inquiring of two persons who were probably the first to keep bees here, I find that after two seasons of reasonable success in box hives, the country then being almost a wilderness, one put his bees in a cellar to winter, when the cellar was half full of water; in the spring his bees proved to be poor sailors and gave up the ghost; the other tried wintering out of doors with no kind of packing or absorbents; the snow that winter was three feet deep, ice filled the entrances, and the bees went to another clime.

In most cases where a hive of bees has been obtained, they have been left to care for themselves; the farmer being too much "drove" with work, as he thought, to care for them except in swarming time; and always laying down the axiom that "bees are dangerous things."

Some I know, are now keeping bees according to the most approved methods in Benzie, Grand Traverse, Leelenaw, Antrim, Charlevoix and Emmett counties, and with as much success as is usual in any part of the State, judging from reports. All of these, and others of the northern counties, have on their best farming lands a large amount of sugar maple, elm and basswood, the latter bloomed this year from July 13 to 29th, inclusive—17 days. On all of our best farming land also the white clover, in its season, is a rich carpet of bloom.

The raspberry and blackberry thrive almost everywhere, even on very light sandy lands, especially in old choppings and burnings; and the golden rod is very abundant along old fence-lines and in low moist places. Buckwheat is much cultivated, but is mostly raised by the newer settlers; its late sowing being favorable to late clearing.

I have visited Mr. James Williams, in the township of Banks, who bought his first colony, a weak one, April 1, 1878, and commenced without any practical knowledge of bees. He took a bee paper, studied and persevered. His first swarm came off July 8, then followed 3 after-swarms July 19, 23 and August 22. He took 50 lbs. of comb honey, and packed his 5 colonies in rough boxes with 6 inches of chaff around them, for winter. On April 1, 1879, they were all in good condition, and he bought 1 more, making 6. First swarm he obtained June 9; the last July 12; giving him then 22 to winter. They are all in good condition, packed in 5 inches of chaff, on their summer stands, and, when I saw them, the brood-frames were well filled out, the faces being almost perfectly straight. He has an extractor, and has taken 200 lbs. of clover, 400 lbs. of basswood, and 100 lbs. of fall honey. Uses Simplicity hives with Langstroth frames. By dipping a cold saw plate in melted wax, he had improvised a thin, perfectly flat foundation, which the bees built out with good regularity—better so, than none at all.

Mr. Cook, of Kearney, brought in a colony last spring. His place is a new clearing in the wilderness. This colony gave 7 swarms during the season; all are well provided for the winter, and he has a little honey for the family.

April 20, 1878. I brought home 2 colonies in movable frames, a distance of 46 miles. I had not, then, looked inside the hives nor did I know anything of bee-culture, except by some reading in the agricultural journals. They proved to be good hybrids, and had been allowed their own way, filling in about ⅛ of drone comb. I transferred, united, Italianized, and made Simplicity Langstroth hives and frames. I accidentally killed a queen, and secured a young virgin queen late, to take her place, and this colony wintered its drones. I obtained 300 lbs. of comb honey; I went into quarters with 5 colonies after uniting 2, one of which had lost its queen in her flight, and the other was the colony with the late virgin queen. They came through the winter in good order. The upper story was filled with chaff, and bundles of straw all around them. The snow covered them much of the time. The clear gain of the first season's venture was $75.24, after paying all expenses, including two bee-periodicals, but not including my own time nor that of my wife, who has been an able assistant.

The present season has not met my expectations, for no fall honey was taken; but I do not make so discouraging a report as some. I started with 5 colonies (I having a drone-laying queen), the latter colony refused all my assistance towards replacing her, and was quite worthless during the season. On June 3, I received 4 colonies of nice Italians from Mr. James Heddon, of Dowagiac, and by a mistake after they left his hands, I did not get them till they had been on the road in the hottest of weather two weeks, losing the same as one swarm each, these recovered and increased well, but made little surplus. I lost 2 large swarms after hiving them on frames of unsealed brood; I sold 1, which afterward made 2 more, and have 51 strong colonies, with plenty of stores, wintering on their summer stands, packed in rough boxes and straw, with chaff in upper story.

I obtained 450 lbs. of honey, mostly comb, and all but about 50 lbs. from the 4 wintered over. There are several bee-keepers in the counties named who had from 60 to 125 colonies last spring, whose reports I am not able to get. Bees generally wintered well here last year. Snow is a good protection.

I have a little incident showing the affection of the little creatures. When I bought my first colonies of bees, the seller could not tell the age of the queens, but this summer as I was standing close by the entrance of a hive having one of them, the bees brought out the queen, as she proved to be an aged one, but instead of biting and balling her, were standing close around licking her; while this performance was going on, she expired. I put her in a queen cage till the next day, when I placed her at the entrance, and the same ceremony was again gone through with. On

examination, I found they had a queen to take her place.

Let me close this imperfect report by expressing the hope that if friend Heddon gets the situation of Superintendent of the National Apiary, at $2,500 per year, which he proposed to locate at Petoskey, Northern Michigan, may become famous for its apiculture, and if this great project should fail, Mr. Heddon may be able to bear the disappointment, and this part of the State, after years of recuperation from the misfortune, prove that there is honey in the carcass of the lion, if he did not find it in Petoskey.

A vote of thanks to the committee was passed for their able report, and the report was adopted.

The following essay by Mr. A. E. Wenzel was then read:

Wintering Bees on the Summer Stand.

We should ever feel under obligation to do our utmost as progressive bee-keepers, to advance our mutual interests, as in all other relations of life; the result of such unselfish labor to be determined by the public whose interests are intended to be subserved. I infer that it is not your society's intention to confine remarks to any particular subject, but to have each respective branch of the apiarian industry, as one chooses to select, brought out for its fuller development. If so, I shall choose for my subject the oft repeated theme, "Wintering Bees upon the Summer Stand," which subject, though threadbare, is still unintelligible to many. Assuming that much has been said, too much has been interpolated that has no bearing directly upon the vital point at issue. The errors have been errors of *commission* rather than of *omission*, by generalizing upon the whole system, instead of confining a subject to special treatment, and which, otherwise, might often deservedly be rebuked by saying thereof, "It's talked to death."

To winter bees successfully, it is of prime necessity that they be in proper condition in the fall, like other stock.

To winter bees at all, we must assume their condition as favorable to be operated upon; their position and location to be assumed also as the best (or should be made so), as suited to one's necessity and convenience; plenty of honey in the hives; bees numerous, which indicates a prolific queen. Their dwindling at times is, unfortunately, caused by extraneous conditions, which may be assigned to unseasonable molestation and sudden unfavorable changes in the weather.

Some people would over-do their packing or "stuffing;" stuff everything full where empty space allows, on the top, sides and bottom—their limit to the same being restricted only by the amount of lumber at their disposal. Too much packing over the frames, without vent, absorbs and retains the moisture exhaled from the bees, while below the moisture is frequently drawn in from without by capillary attraction, which moisture in either case has a tendency to decompose the saturated packing, thereby rendering it unfit for the purposes designed, if it does not otherwise become solid by frost, in which state it becomes an element of cold.

Another fruitful error (one which is a crime of commission), is the robbing of the bees of their necessary winter stores, thereby putting them to the necessity of seeing how little they can winter upon, and consigning them to certain starvation in case of a backward spring.

Even molesting combs late in the season, for the purposes of examination or for perforating holes through the same for winter passage-ways to their stores, I esteem as a fruitful source of disease, by the brood becoming chilled by exposure, and frequently disturbing otherwise the normal condition of things by breaking joints and combs, for which the bees have no redress, it being too unseasonable for them to make repairs, besides it sometimes induces robbing, thereby also causing decimation.

A hive properly packed over the brood chamber, I esteem as the only essential to safe wintering on the summer stands.

When the side of the hive permits of a space by double walls (not particularly in feet nor inches, as any practical small air space that will allow of circulation of air would appear beneficial), I claim from my own long experience, formerly with the common box hive and more recently with the American frame hive, treated as I recommend, that side packing is not really essential.

The new comb-honey racks of the period are an excellent arrangement for properly packing above the bees, to wit: after removing the section boxes, insert wire-cloth in their place above and on the bottom of the rack; if such racks be not used, then by sticks elevate the wire-cloth enough to allow a passage for the bees underneath it, upon the brood frames (a temporary frame surrounding the wire-cloth), then cover with a piece of common muslin, say 2 feet square, upon which chaff, buckwheat hulls, wheat bran or sawdust, to the depth of 2½ or 3 inches (with the edges of the muslin projecting over the top to facilitate removal when desired in the spring),

the whole covered by a cap having holes 1½ to 2 inches in diameter cut upon opposite sides, and covered with wire-cloth to exclude the vermin. These holes allow free evaporation, without a circulation of air up through the mass of bees from below. The principle eliminated is that the moisture exhaled by the bees is absorbed and radiated by the chaff or other packing, but the heat is retained, owing to the non-conducting materal used. The carbonic gases and the exhalations of the bees, being heavier than air, flow out from the entrance below, and is replaced by pure atmosphere.

Thus from the foregoing we deduce the following conclusions:

1st. We should not rob bees too close at times when they have no chance to replace it.

2d. Do not bore holes through the combs for the bees, but let them have a passage in winter over the top-bars or frames, protected by a non-conductor of heat, but to be no less an evaporator of moisture.

3d. Only during warm weather in winter clear the entrances, which may have become partially or wholly closed by snow, ice or dead bees.

4th. Let the bees choose their own time for purifying flights, and, if snow covers the ground, sprinkle with a little straw, chaff, or anything of that nature, to afford the bees a better opportunity to rise again than from the snow.

5th. Otherwise, let the bees "severely alone;" but see to it that no loose, clattering boards or covers of hives can molest or annoy the bees by jarring the hives in stormy weather, when the bees are enjoying their wonted winter repose.

I will sum up by recapitulation: For wintering—

1st. Have everything done in its proper season.

2d. Do not do too much; but do that little well, and disease will be unknown.

A. E. WENZEL.

Callicoon, N. Y., December, 1879.

Implements Exhibited.

Langstroth Hive, &c.—Erastus Weeks, Jackson, Michigan.

Wired and Thin Flat-Bottomed Foundation—J. Van Deusen & Sons, Sprout Brook, N. Y.

Comb Foundation and Sweet Clover seed—S. & G. Perry, Lansing, Michigan.

Bingham & Hetherington Uncapping knives and Bingham Smokers—Bingham & Hertherington, Otsego, Michigan,

Letters were received from some prominent bee-keepers regretting their inability to be present, and wishing the Convention "great success." Albino bees were shown, and the Secretary would like to hear from the person who sent them? T. F. BINGHAM, *Sec.*

Letter Drawer.

Breakabean, N. Y., Nov. 13, 1879.

In the fall of 1878 I wintered 97 colonies on their summer stands and lost 30 of them; 15 in the cellar, loss 5; 30 in a bee house, loss 10; 32 in my own hive without sawdust or chaff, on their summer stands, loss 3. In the season of 1878 I got 1,000 lbs. of honey from 97 colonies; in 1879 I got 1,500 lbs. from 100 colonies. Last fall 50 out of the 97 were weak, now I have but 1 weak, out of 100 colonies. WM. B. BURGETT.

Bernardo, Cal., Nov. 17, 1879.

Our prospects here are very gloomy; besides the bad season that we have had, the most extensive fires ever known have been raging, leaving the country for some 75 miles as bare as your hand; it will be 3 years or more before vegetation can be restored. Many have lost as high as 50 per cent.; one of my neighbors, 60 per cent. My loss so far is just 27½ per cent. Then the colonies being so weak for winter, many will yet die. We have just had a glorious rain; more of it for thus early in the season than ever before known; but for 3 days a gale from the desert has been blowing, looking as if it would drink up every particle of moisture. Under the best of circumstances you may count on nothing wonderful for California next year. I find my comb foundation does not sag near as much here as it does east, and can account for it only by the very cool nights we have. RUFUS MORGAN.

Nassagaweya, Ont., Dec. 3, 1879.

My grateful thanks are due to Mr. G. M. Doolittle for the appropriate articles published during the past year in the AMERICAN BEE JOURNAL. May he long be spared to give us regularly his practical experience in the management of our bees and care of our honey. I have been greatly benefitted by his advice in the JOURNAL and also by other scientific and common sense articles, and in fact I am extremely well pleased with the AMERICAN BEE JOURNAL. I cannot keep bees and do without it. Right here I must express my feelings towards the editor of the JOURNAL for his ability to conduct and instruct. There is no man that the apiarists of this continent ought to be more proud of; with him their intersts are in safe keeping; and fraud and adulteration is denounced by him as it should be. Long may friend Newman be spared at the head of the AMERICAN BEE JOURNAL. R. L. MEAD.

Nebo, Ill., Nov. 27, 1879.

The honey crop was a failure here this season. I had 14 colonies last fall; I doubled them up leaving only 7, and I fear they have not enough honey to winter on. E. F. BOGART.

Portland, Maine, Dec. 15, 1879.

Bees did well here till July, when the honey yield failed entirely. I winter on summer stands, packing with dry leaves, and have not lost a colony for two years.
JOS. A. DIRWANGER.

Carthage, Ind., Dec. 13, 1879.

About ¼ of a honey crop is all we have had this season. We have 147 colonies in the house rather weak in numbers. We are selling extracted honey at 15c. per pound; We had about 5,000 lbs. P. W. MCFATRIDGE & SON.

Peoria, N. Y., Dec. 10, 1879.

I claim that not in any locality has comb foundation been experimented with to any greater extent than in this immediate vicinity. Commencing with that first manufactured and sent out by John Long and closing the past season's operations with the thin flat-bottomed cell, manufactured as the latest improvement. We have thoroughly tested its practicability and found that the half has not been told. C. R. ISHAM.

Cokato, Minn., Dec. 11, 1879.

With 19 colonies last spring I obtained 1,810 lbs. of honey and 21 swarms, besides getting 80 new combs built. I use the 1½ story American hive. I use top boxes and winter in the cellar. I have never lost a colony in winter nor by "spring dwindling." I put my bees into the cellar before it becomes cold, give them one winter flight, and do not take them out till late in the spring. I appreciate the BEE JOURNAL very much.
F. LEE.

Athens, O., Nov. 10, 1879.

The past was the poorest season here for bees and honey that I have known for 20 years. There was not a natural swarm from 80 colonies, and I got no extracted and but very little comb honey, and now bees not far from here are in a starving condition. A swarm came to my apiary late last night and settled on an apple tree. I put them into my workshop, and during the night they took possession of a quart can containing some refuse honey, literally covering it heaping full. It was a swarm of black bees; mine are all good Italians in Langstroth hives.
J. M. HIBBARD, JR.

Zanesville, O., Nov. 26, 1879.

The past season has been a poor one for bees here. They did not gather enough to live on. I have 11 colonies of black bees and 2 of Italians. I got about 150 lbs. of honey from them but had to feed it back in the fall.
THOMAS H. HUNTER.

Smith's Grove, Ky., Nov. 25, 1879.

The honey crop here is very short. My bees are packed with leaves and chaff, on their summer stands, with plenty of bees and stores. After dividing the honey with poorer colonies, I have a nice surplus left over for spring feeding; so that I shall not need sugar syrup to feed in the spring.
N. P. ALLEN.

Chismville, Ark., Nov. 15, 1879.

The past season has been the best for honey that I have ever seen, but I have had very little increase in bees. I have some fears that our colonies are too full of honey to winter successfully. The honey-dew was so plentiful here that it killed thousands of trees in the forests. It fairly dripped from the leaves. I have several trees in my door-yard, and my bees awoke me several mornings, with their humming before it was fairly light, while gathering the honey-dew.
THOS. H. DURHAM.

Holley, N. Y., Oct. 21, 1879.

My 3 colonies, I have increased to 4. August 1st I purchased a nice Italian queen and tried to build up a fifth, but the cold and wet weather came on, and when I looked for her, she could not be found. The cold wet weather continued through September, cutting off all gathering from fall flowers, until this month. I have fed 10 lbs. of sugar to make sure of a winter supply; had my bees been able to gather from red clover there would have been a large supply, as there are fields of it all around us. I sowed cleome last spring but it did not come up; I have sowed more this fall and will sow some in the spring; I have scattered some mustard and sweet clover seed, let the catnip go to seed, and a patch of motherwort has also been allowed to grow. The basswood seed did not grow, but I will try again on that. I have taken a little care to extend the holly hocks, so I try to begin in a way to do better. I expended $60. in my new business; have increased 1 colony and taken over 100 lbs. of white honey. I can sell all I have, and more too, at my own door, at 15c. per pound. I have sold enough to pay the interest on the investment, besides that we ate and gave away. My bees go into winter

quarters in good condition. As an experienced bee-keeper, a few miles south of us, has only 40 lbs. of honey from each colony; I think I have done well, in this my first lesson; his is the best result I have heard of, the season being poor for honey. I call the "Blessed Bees" the poetry, "Cook's Manual" the study, the AMERICAN BEE JOURNAL the daily food, and with these shall, if all is well, advance in wisdom the coming winter.

MRS. A. S. KEYES.

Malta Bend, Mo., Dec. 3, 1879.

This past season has been the worst I ever knew for bees. There are very few but will have to be fed or they will starve. E. B. LUMBECK.

Center Point, Iowa, Nov. 26, 1879.

I ha d60 colonies of bees last season. They all did well, pleasing me so much that I intend to go into the business more extensively next season.

D. S. WAY.

Ligonier, Ind., Dec. 5, 1879.

I think the BEE JOURNAL the best paper I have seen; I have learned considerable from it. This has been a poor year for surplus. I had 8 colonies last spring; I got 13 swarms from them and now have 18 colonies in good condition on their summer stands, well supplied with honey for the winter.

A. D. STOCKING.

Beechville, Ill., Dec. 8, 1879.

Bees have not done well here this season, but I can say nothing when I see the reports of others. My report for 1879 is as follows: Sold honey for $30.00; outlay for hives, sections and boxes, $37.00; 14 swarms sold, $28.00; total, $58.00; profit, $21.00. I shall try it again, and expect to be able to make a better report next year.

JOHN BOERSTLER.

Angola, Ind., Dec. 11, 1879.

I had 48 colonies one year ago; 21 in A. G. Hill's single-walled hives, 2 in his double-walled hive, packed in sawdust, according to his theory; I lost one out of the 23. I had 18 in the Farmer's hive, packed in sawdust; I lost 4 out of 18, and I had 7 in Farmer's hive left on the summer stands, I lost 5 out of the 7. They were all in good condition except having too much cider. I have 61 colonies packed in chaff. I sold 6 colonies and 1,080 lbs. of comb and 140 lbs. of extracted honey.

WM. MACARTNEY.

Galesburg, Ill., Dec. 2, 1879.

My bees seem to be carrying a great many dead ones out of the hives and appear to be cleaning out more than usual. The weather being so mild, I still keep my bees out of doors in the open air and shall leave them out until a greater change takes place in the weather. H. BROWN.

Chariton, Iowa, Dec. 7, 1879.

This was a disastrous season for bee-keeping. No surplus honey here. Many will die unless fed before spring. It was a singular season, as all crops raised here were reasonably good, and such seasons are generally good for honey, but this was an exception. Many bee-keepers are anxious to sell out. During October a gentleman here advertised his apiary of 100 colonies for sale at auction. The day of sale arrived and a number of bee-keepers were there to see how they would sell, but not a single bidder appeared on the ground. JOHN BARFOOT.

Hastings, Minn., Dec. 4, 1879.

I have lately visited the apiary of John H. Ford. He has over 80 colonies, and one of the best locations in this part of the State. They were strong in numbers and had plenty of honey last spring, but he only got about 300 lbs. of extracted and 200 lbs. of comb honey in sections. This is the best yield I know of in this section. He has been engaged in bee-keeping for over 20 years, and says that this has been the poorest season he ever experienced. I never saw a better growth of white clover, but it yielded no honey except a few days in June. Alsike clover and basswood were the same. During the first week in Sept. of 1878, my bees, increased from 5 to 8 lbs. per hive, by weight—but this year with, to all appearance, the same amount of bloom, one gained ½ lb. in 2 days, and the others lost some ¾ lb. in the same length of time. Another bee-keeper here has fed 300 lbs. of sugar to his bees this fall to keep them from starving. WM. DYER.

FRIEND NEWMAN.—Mr. D. A. Jones, of Beeton, Ontario, and myself will leave for Europe some time this month or early next. Sailing from Quebec, we will land at Liverpool, then go to London and proceed across Germany to Trieste, stopping wherever we can gain any information about the much talked of Cyprians. At Trieste we will take a steamer for Cyprus, and after our arrival there will visit all parts of the Island, and selecting the most favorable point, establish a queen-rearing apiary.

Mr. Jones expects to return in the spring while I shall probably remain to rear and ship queens to him. We go over there to sift the whole matter thoroughly, and if the excellent things our German cousins have said of the Cyprians do not hold out, we will let the whole matter drop. We have taken no orders for queens, nor have we promised them to any one, and we do not propose to do so, until by our personal experience and observation we have learned what are the peculiarities of this race.

FRANK BENTON.

Bay City, Mich. Dec. 21, 1879.

I have 16 colonies of bees on their summer stands, in Langstroth hives, packed in sawdust and straw. They appear to be doing nicely. I lost 15 colonies of bees last winter, and also all I had the winter before last, but am bound to succeed, if I have to buy every year.

J. M. PARSHALL.

Williamsville, Mich., Dec. 16, 1879.

Last year our bees averaged 3 swarms and 90 lbs. of honey, while this year they have averaged but 2 swarms and 30 lbs. of honey, per colony. The bees kept breeding until late in October. I sold 5, united 4, fed a few, then prepared 48 for winter. I contracted the hive to a cubic foot, packed straw in the vacant ends and over them in the cap; put the weakest and lightest in the cellar; will move them out if they get uneasy.

C. F. SMITH, JR.

Munster, Ill., Dec. 10, 1879.

Eight years ago when but 13 years of age, I found a swarm of black bees in an old linden stump on the banks of the Vermillion river. I took them out and put them in a box-hive, and from that one I have increased to 50, which are mostly in movable-frame hives, and nearly all Italians. I have lost several colonies in winter, and had a few robbed out. I know that I have not handled my bees as I should, to be profitable, and I have not received any profit from them; in fact they are debtors to me for not less than $50, in cash, besides my labor, but I have a few hives and other supplies on hand that are worth something. I have my bees all packed in chaff, on their summer stands, as if I expected them to come out all right in the spring. The honey crop in this locality, last season, was an entire failure; I only received a few swarms and no honey. I had to feed the young swarms to prevent them from starving and the young bees died in the comb with something like foul-brood in some respects, but not in all. The appearance of the cells that contained the dead bees was like foul-brood; some of the cells were entirely uncapped, and others partly so, while still others had small holes, like pin holes, in them. There was no offensive smell in the hive as is the case with foul-brood, and instead of the young bees turning into a yellow, tough, bad smelling mass (as mentioned by Mr. Muth), they remain white, unless they are left in the combs a long time and then they turned black and seem to dry up in their natural shape; the bees always remove them. I put a comb of this brood in a strong colony, where honey was plenty and they removed them in one hour and it left no bad results. I found a few cells of this in several strong colonies but it disappeared without harm. Is this a kind of foul-brood, or was it caused by lack of honey?

W. T. HOHENSHELL.

[It is not foul-brood. Have you not opened the hives and stood the frames around when it was cool enough to chill the brood? It has that appearance. Or they may have starved.—ED.]

Denver City, Col., Dec. 9, 1879.

The queen you sent me went to laying the next day after I received her, and the colony was very strong when packed for winter. The bees looked as fine as any I have. I started last spring with 6 colonies, 4 being very weak. I increased to 19, and have obtained 600 lbs. of honey, mostly extracted. Our honey season is only about 6 weeks in June and July.

DAVID WOLPERT.

Limerick, Ill., Dec. 9, 1879.

In the spring of 1878 I sowed the Rocky Mountain bee plant seed, and waited patiently for it to come up. As it did not, I thought it would not do so, so I dug it up and planted cucumbers and tomatoes. But the next spring, to my surprise, the bee plant came up very nicely. The fall of 1878 was good for honey. I asked bee-men what the bees got honey from but they could not tell. I thought it was from what we call black heart; I asked if it would be good for bees to winter on and they did not know. That year bees went into winter quarters unusually early, plenty of bees and heavy in honey. Continuous cold set in about Thanksgiving day; in this condition they formed more dampness and ice in the hives than common. The result was a heavy loss in wintering, and "spring dwindling." The long and severe cold caused them to eat so much poor honey without a fly, and that, I think, in part, caused the loss. The

combs appeared effected by it, and were brittle, unhealthy and turned black. This year, the bees had a fly on Thanksgiving day and also on Dec. 1st. I hope they will be the better for it. I do not think colonies half as strong in bees now as they were a year ago; some think there will be a heavy loss again, because of a scarcity of bees. I tried to pack the better for it. E. PICKUP.

Sumner, Ill., Dec. 10, 1879.

About two-thirds of the bees in this locality died last winter, and I think the rest of those left unprotected will die this winter. I put 57 colonies into winter quarters last year and lost 6 of them. I have fed them nearly all the summer and fall to prepare them for winter, and united the weak ones, leaving only 22; I did not obtain a single pound of surplus honey, though I gave them good care and attention. The wingless queen that I mentioned last fall reared nice workers, but died in the spring. My bees are now packed in chaff, and have been provided with sugar for their winter supply. W. EMERICK.

Bellwood, Pa., Dec. 15, 1879.

My bees are in pretty good condition for winter. I feared that they would not winter well when I packed them away, early in November, as the warm weather of October gave them an opportunity to gather much cider from the presses, but as the winter so far afforded them frequent opportunities for flying, I think they will have this trash all worked up, and when winter weather sets in, they will have their good honey to work on and we will not have to wash and scrape our hives next spring from the effects of dysentery. I winter on summer stands with an outer case packed with chaff, and quilt spread on top of frames, covered with chaff 4 inches thick.

FRANK M. GLASGOW.

Canon City, Col., Dec. 20, 1879.

On page 72, Vol. 15, I notice an article on cleome as a honey plant, in which the writer says, in Colorado and in various parts of the Rocky Mountains he never saw a bee at work on it. There are many strange things in this world, but one of the strangest things is, that a man with his eyes open should be unable to see a bee at work on cleome. I can only account for it on a theory that he had paralysis of the optic nerve. In this part of the State, it is the chief source of supply for our surplus honey. The bees gather large quanties of it; it is of a light color, and good flavor.

CHAS. E. MCRAY.

Business Matters.

OUR TERMS OF SUBSCRIPTION,

PAYABLE STRICTLY IN ADVANCE.

Single subscription, one year		$1.50
Two subscriptions,	" "	2.50
Three subscriptions,	" "	3.50
Four subscriptions,	" "	4.50
Five or more,	" " each,	1.00

Advertisements will be inserted at the rate of **20 cents** per line of Agate space, for each insertion. A line will contain about **eight words**; fourteen lines will occupy an inch of space. Advertisements must be received by the 20th, to insure insertion.

Special Notices 50 cents per line.

☞ We intend only to advertise for reliable dealers, who expect to fulfill all their advertised promises. Cases of *real* imposition will be exposed.

Remit by express, money-order, registered letter or New York or Chicago drafts, payable to our order. *Do not send checks on local banks*, for such cost us 25 cents each for collecting.

THOMAS G. NEWMAN & SON,
972 & 974 West Madison St. CHICAGO, ILL.

To Correspondents.

Our Illustrated Catalogue and Price List will be sent free, on application.

When changing a post-office address, mention the *old* address as well as the new one.

Constitutions and By-Laws, for local Associations, $2.00 per 100. The name of the Association printed in the blanks for 50 cents extra.

We do not send goods by C. O. D., unless sufficient money is sent with the order to pay express charges both ways, in case not taken from express office.

Strangers wishing to visit our office and Museum of Implements for the Apiary, should take the Madison street-cars (going west). They pass our door.

In consequence of the dearth of small currency in the country, we will receive either **1, 2 or 3 cent stamps**, for anything desired from this office. We cannot use Canadian or other foreign stamps.

We will send a tested Italian Queen to any one sending us **FIVE** subscribers to the AMERICAN BEE JOURNAL with **$7.50.** The premium Queens will in every case be tested, but not sent till after July 1st.

Club names for the BEE JOURNAL may be sent to as many post offices as there are names in the club. Additions can be made to clubs at any time at the same rate. Specimen copies, Posters, and Illustrated Price List sent free upon application, for canvassing.

Seeds or samples of merchandise can be mailed for one cent per ounce, Printed matter one cent for every two ounces. These must be tied up; if pasted, they are subject to letter postage. *Don't send small packages by express, that can just as well be sent by mail.*

Our answer to all who ask credit is this: We sell on **small** margins, and cannot afford to take the risks of doing a credit business. If we did such a business, we should be obliged to add at least 10 to 20 per cent. more to our prices, to make up for those who would never pay, and to pay the expenses of keeping book-accounts with our customers—this we know our **Cash** customers would not think to their advantage.—This rule we must make general in order not to do injustice to any one. The cash system gives all the advantage to cash customers, while the credit system works to their injury. In justice to all we must therefore require **Cash with the order.**

☞Mr. W. P. Henderson, Murfreesboro, Tenn., on Dec. 11, 1879, sent us some bloom from the Hawthorn, from which the bees were on that day gathering pollen.

CLUBBING LIST.

We supply the AMERICAN BEE JOURNAL and any of the following periodicals at the prices quoted in the last column of figures. The first column gives the regular price of both.

Gleanings in Bee Culture	$2 50	$2 25
Bee-Keepers' Magazine	2 50	2 00
Bee-Keepers' Exchange	2 25	2 00
Bee-Keeper's Instructor	2 00	1 75
The five Bee papers of U. S.	4 75	3 40

Local Convention Directory.

1880. *Time and Place of Meeting.*

Jan. 13.—N. W. Ill. & S. W. Wis., annual, at Davis, Ill.
13.—Indiana State. at Indianapolis, Ind.
21—Central Ohio, at Chillicothe. O.
Feb. 2—Southern Michigan, at Battle Creek, Mich.
3—Fireman's Hall, Cortland, N. Y.
11—Northeastern, at Utica, N. Y.
Oct. — —National, at Cincinnati, Ohio.
14—Southern Kentucky, at Louisville, Ky.
Dec. 8.—Michigan State, at Lansing, Mich.
14, 15.—Northern Michigan, at Carson City, Mich.

☞ In order to have this Table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

Honey and Beeswax Market.

BUYERS' QUOTATIONS.

CHICAGO.

HONEY.—White clover, in single-comb sections, 16@18c.; when with more than one comb in a box, 2c. per lb. less. Dark, in the comb, no demand. Extracted, 8@10c.

BEESWAX.—Prime choice yellow, 20@22c; darker grades, 12½@15c.

NEW YORK.

HONEY.—Best white, in single-comb sections, 16@18c.; fair do., 14@16c. Larger boxes, 2c. per lb. less. Extracted, 8@10c.

BEESWAX.—Prime quality, 25c.

CINCINNATI.

HONEY.—White, in single-comb sections, 16@18c. It retails very slowly on account of the increased price, which is above the views of consumers. The extracted sells readily—8@9c. C. F. MUTH.

SAN FRANCISCO.

HONEY.—Comb, 15@18c.. Extracted, 10@12c. ₱ lb. The stock is light, as is also the demand.

STEARNS & SMITH.

DUNHAM

COMB FOUNDATION MACHINE.

Having put in new machinery, I can manufacture much cheaper than heretofore, and will give Bee-Keepers the benefit of the reduction. I will sell strictly first-class machines, of the best workmanship, at the following rates:

12 inch rolls		$57.00
9	" "	38.00
6	" "	27.00
4	" "	19.00

I will make a cheaper machine when desired, but do not warrant or recommend it. Send for circular, and also read the wholly unsolicited editorial on Comb Foundation, in the AMERICAN BEE JOURNAL for August, 1879, page 340. A machine can be seen at said office. I received orders for twelve Machines during the week of the National Convention, from D. A. Jones, of Beeton, Ont., and J. Oatmon & Sons, Dundee, Ill., among others.

Inventor and sole manufacturer,

1 MRS. FRANCES DUNHAM, Depere, Wis.

North-Eastern Bee-Keepers' Association.

The Tenth Annual Meeting of the North-Eastern Bee-Keepers' Association will be held in the City Hall, at Utica, N. Y., Feb. 11th, 12th and 13th 1880.

Prizes will be awarded for essays and implements of bee-culture, as follows: $5.00 for the best essay—subject, The Races of Bees and the different Crosses; $5.00 for the best essay—subject, Comb Foundation, the various Modes of Manufacture and its Uses; $5.00 for the best essay—subject, The Best Mode of Increase of Swarms, how far should it be extended, and how best prevented? $5.00 for the best Honey Extractor; $1.00 for the best Comb Foundation for the brood chamber; $1.00 for the best Comb Foundation for the surplus boxes; $2.00 for the best and most practical Bee Smoker; $2.00 for the best and most practical Bee Hive, with the surplus arrangement and boxes; $8.00 for the best display of Apiarian Implements. Every manufacturer of supplies, and every inventor of extractors, smokers, comb foundation and other apiarian implements, are hereby invited to send their articles and compete for these prizes. It is especially requested that all articles be exhibited in the same shape and form as they are made for the trade, and not fitted up expressly for exhibition. Every article will be arranged so as to compare favorably with others on exhibition, and we shall endeavor to have a just and impartial decision rendered in each and every case. All are invited to make an effort on the prize essays.

The following will be the programme in part:

First day, Feb. 11.—Convention called at 1 o'clock p. m.; calling the roll; Secretary's report; Treasurer's report; report of standing committees; essay from Mr. A. G. Thurber—subject, The Future of the of the Honey Trade, followed by discussion.

Evening Session.—Essay from Mr. H. A. Burch—subject, A Neglected Field, followed by discussion; essay from Mr. E H. Wynkoop—subject, Small Fruits as a Secondary with Apiculture, followed by discussion.

Second Day, Morning Session.—Convention called at 9 o'clock a. m.—Appointing of Committee on Prize Essays and Implements on exhibition; President's address—subject, The Best Mode of Increase of Swarms, how far should it be Extended and how best Prevented? followed by prize essays upon same subject and discussion; essay from Mr. A. F. Moon—subject, Improvement of the Italian Bee, Dollar Queens, &c., followed by discussion.

Afternoon Session. Receiving members; election of officers; appointing of committee to take charge of question drawer; reading of prize essays—subject, Comb Foundation, the Various Modes of Manufacture and its Uses, followed by discussion; essay from Sec'y Geo. W. House—subject, Past Events, followed by discussion.

Evening Session.—This session will be spent in examining articles on exhibition, and receiving explanations from exhibitors.

Third Day, Morning Session.—Convention called at 9 o'clock a. m.; reading of essays—subject, The Races of Bees and the Different Crosses, followed by discussion; essay from A. J. King—subject, Management, followed by discussion.

Afternoon Session.—Report of Committee on Essays and Implements on Exhibition, and awarding of the prizes for same; report of Committee on Question Drawer; miscellaneous business; adjournment.

Those not expecting to be present are invited to send questions for the Drawer.

Essays are expected from prominent apiarists.

The coming Convention promises to be one of the most interesting since the organization of our Association. Let everybody attend.

GEO. W. HOUSE, *Sec'y.* L. C. ROOT, *Pres't.*

SEED-TIME AND HARVEST.

Edited by Isaac F. Tillinghast.

A New Illustrated 24 page Magazine devoted to the Cultivation and Improvement of our American Gardens. Price only 50 cents per year, and each number contains as a supplement a packet of some New, Rare, or Novel Flower or Vegetable Seeds, which alone are worth more than the subscription price. One sample copy free. Address,

SEED-TIME AND HARVEST, La Plume, Pa.

THE BRITISH BEE JOURNAL,

AND BEE-KEEPER'S ADVISER.

The *British Bee Journal* is published monthly at $1.75, and contains the best practical information for the time being, showing what to do, and when and how to do it.

C. N. ABBOTT, Bee Master.

School of Apiculture, Fairlawn, Southall, London.

STILL LIVING!

J. OATMAN & SONS

would call attention of all desiring supplies for their apiaries the coming season, to the fact that they are prepared to lead the trade in

DUNHAM FOUNDATION,

ITALIAN BEES AND QUEENS,

Modest and Langstroth Bee Hives,

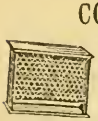
Honey Boxes, Sections, &c.

Wax worked to order on Shares or for Cash.

Especial mention would be made of the fact that we bought **90 IMPORTED QUEENS of MR. POMETTA** last fall, and have them now wintering in full colonies, and will be pleased to book orders from all desiring a genuine Imported Queen **earlier** in the season than can usually be supplied. If you do not receive our Price-List by February 1st, write for it. Address your orders and communications to

J. OATMAN & SONS,
1 **Dundee, Kane Co., Ill.**

Our FLAT BOTTOM COMB FOUNDATION,



with high sharp side-walls, 10 to 14 feet to the pound, HAS BEEN USED the past season in FULL SIZE SHEETS in Surplus Boxes, adding LARGELY to the YIELD and to MARKET VALUE of the honey.

The wired foundation does not sag, and gives general satisfaction.

Circular and samples free.

This foundation is patented, and no infringements allowed.

J. VAN DEUSEN & SONS,
Sole Manufacturers.
1-6 **Sprout Brook, Mont. Co., N. Y.**

☞ **Full Colonies of Yellow Bees,** in the best condition; honey by the barrel or less.
1-tf J. M. MARVIN, St. Charles, Kane Co., Ill.

Foundation Machines.

For the benefit of bee-culture, I will from this day sell my **12-inch Machines at $35.00,** and the **9-inch at $25.00.** The Machine gives full satisfaction, and needs no praise.

☞ Send for circular and samples.
1 JOHN BOURGMEYER, Fond du Lac, Wis.

BEFORE PURCHASING

supplies for your apiary, send a postal card with your name, and if you will do us the kindness, the names of your bee-keeping neighbors, for our illustrated catalogue of apiarian supplies of every description, sample section box and comb foundation. We wish to present them to every reader of this Journal, and hence offer them **FREE.** Please send your name at once. Special attention given to rearing Italian Queens and Bees.

☞ The highest price paid for Beeswax.
1-8 J. C. & H. P. SAYLES, Hartford, Wis.

Quinby's New Bee-Keeping,

The latest, most practical and most fully illustrated work published. Price $1.50, by mail.

Smokers, by mail, $1.50 and $1.75, and warranted the best in the market.

Send for Circular, giving full index of book and illustration of smoker.
1 **L. C. ROOT,** Mohawk, N. Y.

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Every Farmer, Merchant, Agricultural Implement Manufacturer, Dealer in Tools and Implements, Blacksmith, and all others interested in Manufacturing industries should read the

FACTORY AND FARM,

A Wide-awake, Independent, Forty-page Illustrated Journal of American Agricultural Industries, and Farm Implement Price List; each number containing one or more elegantly engraved portraits of leading manufacturers of the West, drawn and engraved expressly for the FACTORY AND FARM, and articles from the pens of leading writers on subjects of general interest.

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10 " "	.....	12.00

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BUT OLD HANDS.

James Forncrook & Co. have just fitted up a New Shop for the manufacture of Bee Hives, Honey Sections, &c. Material for the Standard Langstroth Hive Cheaper than the Cheapest. We will make a Specialty of the "Boss" One-Piece Sections, heretofore called the Lewis Section, this being our own Invention. Send for Circular and Price List.

JAMES FORNCROOK & CO.,
Watertown, Wisconsin.

The Michigan Homestead.

A PAPER FOR THE

Farmer and Family.

CHEAPEST AND BEST!

Address, **MICHIGAN HOMESTEAD, 54 Bates St., Detroit, Mich.** 1-2

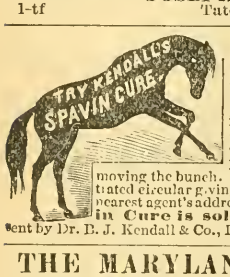
62 Gold, Crystal, Lace, Perfumed & Chromo Cards, name in Gold & Jet 10c. Clinton Bros. Clintonville, Ct.

My Self-Hiving Apparatus,

Or, SWARM-CATCHER,

Is something that bee-keepers the world over have long felt the want of. It will hive your bees without your attention; no watching is necessary. It is simple, cheap and effective; any workman will make them for 25 cents each. No one can see it without being firm in the belief that it will succeed every time. During the first summer, a gentleman after seeing it and hearing its operation explained, offered $500 for the State right of Mississippi, and take it without further guarantee; and Mr. James Heddon, a very intelligent and successful bee-keeper of Michigan, writes me that he will pay $100 for an individual right to its use when he is satisfied it will do all I claim for it. When your bees show signs of swarming, or any time before, all you have to do is to arrange the hive you desire your swarm to occupy, apply my apparatus, and the work is done. You can then go on about your business, and when you return, if your bees have swarmed, you will find them in the hive you have prepared for them, and working out the entrance to the same, while the bees that remain with the parent hive will be working out at their usual entrance, all as contented as though nothing had happened, when the hiving apparatus may be removed to your next strongest colony. It will not fail one time in one hundred to do all I claim for it. It has been thoroughly tested for the past two summers, and will give perfect satisfaction in every instance. For the present I will sell only farm rights. If you have 20 colonies or less, send me $6.00, and I will send you a farm right and one apparatus, with full instructions. Special rates with larger bee-keepers. Send money-order payable at Morristown, East Tennessee, and order early.

JOSEPH WILLIAMS,
1-tf Tates Springs, East Tenn.



This remarkable medicine will cure Spavins, Spirit, Curb, Callous, &c., or any enlargement, and will remove the bunch without blistering or causing a sore. No remedy ever discovered equals it for certainty of action in stopping the lameness and removing the bunch. Price $1.00. Send for illustrated circular giving positive proof, and your nearest agent's address. **Kendall's Spavin Cure is sold by Druggists,** or sent by Dr. B. J. Kendall & Co., Enosburg Falls, Vermont.

THE MARYLAND FARMER,

A Monthly Magazine devoted to Agriculture, Horticulture and Rural Economy. The oldest Agricultural Journal in Maryland. Terms $1.00 per year, in advance. Published by Ezra Whitman, 141 W. Pratt street, Baltimore, Md.

THE MARYLAND FARMER has a larger circulation, and will be read by more Farmers, Planters, Merchants, Mechanics, and others interested in Agriculture, than any other paper which circulates in the Middle or Southern States, and therefore is the best medium for advertisers who desire to extend their sales in this territory. 12-2t

SECTIONS! SECTIONS!

Before ordering supplies elsewhere, send us a 3 cent stamp for a sample of our beautiful snow-white poplar Sections, dovetailed or to nail. These are the nicest and cheapest sections in the world; this no one will deny. Bee hives and other supplies made to order very cheap.

☞ Illustrated circulars free.

A. E. MANUM,
12-3t Bristol, Addison County, Vermont.

☞ **Send your Name, Postoffice, County and State,** plainly written on a postal card, and we will forward by return mail our Illustrated Catalogue and Price List for 1880. It contains valuable information for every bee-keeper. It illustrates and describes things new and novel, that have never before been offered to the public. Write for it now, while you think of it; it is worth a thousand times what it will cost you. Address,

SCOVELL & ANDERSON,
Columbus, Cherokee Co., Kans.

APIARIAN SUPPLIES.

As Cheap as the Cheapest,

AND

As Good as the Best!

4¼x4¼ section boxes, per 100, 50c...per 1000...$5 00
Prize boxes,..... " 70c... " ... 6 00

Good Colonies of Italian Bees, in 8-frame Langstroth Hives, in May, $8.00; 2 for $15.00; 10 and over, $6.00 each; after May, $1.00 less each colony. Take your choice at the price.

Tested Queens, from Imported Mothers, in May, $3.00; after May, $2.00. Untested Queens, in May, $1.50; after May, $1.00.

I have had 23 years' experience with bees in Langstroth hives, and 17 with Italian Bees and have been extensively engaged in the bee business for 11 years. I have now nearly 700 colonies. I have manufactured my own supplies for a number of years with steam power; though I have been engaged in other pursuits. I now intend to make the bee business and its connections a specialty. With my experience, and no other business to look after, I think I will be able to satisfy my customers in every particular.

Comb Foundation manufactured by the pound and on shares.

My facilities for shipping are such that orders can often be filled the same day they are received. To those who may favor me with their patronage, I will try and make it a mutual advantage to us both.

Cash must accompany the order. All my goods warranted.

Cash paid for beeswax. Honey bought and sold.

☞ Price List FREE.

I. S. CROWFOOT,
1-12 Hartford, Wis.

PURDY'S RECORDER

Best paper on fruit and flowers. ☞ Specimen **free.** *Speaks for itself.* Address PURDY, of Palmyra, N. Y.

PURDY'S
SMALL FRUIT INSTRUCTOR.

Tells in plain, simple language how to plant and grow all kinds of Small Fruit for home and market; how to make a Dry-House; profits of the business; sorts, with description; how to market; manures; crates; different plans for growing; garden and market plans; soils, preparation, etc., etc. 64 pages *postpaid* for only **25c.** ☞ Postage stamps accepted. Also his Catalogue on

SMALL FRUITS

16 pages. **Very instructive. FREE TO ALL** applicants. Address PURDY, of Palmyra, New York.

HEADQUARTERS

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EARLY ITALIAN QUEENS.

Imported and Home-bred. Full Colonies and Nucleus Colonies. For quality and purity of stock, it cannot be excelled by any in America.

If you want Queens or Bees, Hives, Extractors, Comb Foundation, Smokers, or Bee Fixtures of any kind, send for my new Circular. Address,

DR. J. P. H. BROWN,
1-6 Augusta, Ga.

Cyprian and Italian Queens and Nuclei.—A Descriptive Price List will be sent free.
1-3¶ JULIUS HOFFMAN, Fort Plain, Mont. Co., N. Y.

ILLUSTRATED CATALOGUE

OF

IMPLEMENTS FOR THE APIARY

FOR SALE BY

THOMAS G. NEWMAN & SON,

972 and 974 West Madison St., CHICAGO, ILL.

TO OUR PATRONS.

In the following pages we present our **Price List for 1880.** The quotations for nearly all the articles are much reduced for the coming year, and we ask a careful perusal of this Catalogue before ordering supplies. As the prices of some things are now fluctuating very much (tin, for instance), the quotations given are subject to change without further notice.

On all articles quoted by mail, we pay the postage; all others are sent by express or freight, at the expense of the purchaser.

Goods desired to be sent by freight, should be ordered from 10 to 20 days before needed for use, according to distance from Chicago.

We do not send goods by C. O. D., unless sufficient money is sent with the order to pay express charges both ways, in case not taken from the express office.

Always write the order for goods on a separate sheet from a private letter or article for publication. Write plainly your name, address, and the way goods are to be sent.

Remit by express, money-order, registered letter or New York or Chicago drafts, payable to our order. *Do not send checks on local banks*, for such cost us 25 cents each for collecting.

Seeds or samples of merchandise can be mailed for one cent per ounce ; printed matter one cent for every two ounces. These must be tied up ; if pasted, they are subject to letter postage.

In consequence of the dearth of small currency in the country, we will receive either **1, 2 or 3 cent stamps,** for anything desired from this office. We cannot use Canadian or other foreign stamps.

We are not interested in the production of anything enumerated in this Catalogue, and recommend no article except on *real* merit. Being located in a great center of commerce, it is sometimes very convenient to get goods of different manufacturers all at one shipment.

Purchasers may, by the aid of this Catalogue, compare prices, and scan closely the various articles offered, by means of its many illustrations and descriptions, thus being enabled to *select* such goods as are desired. It is not always that the lowest priced are the cheapest ; often such are proportionately inferior.

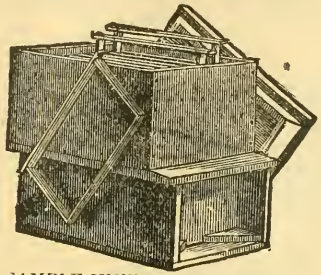
Our answer to all who ask credit is this : We sell on **small** margins, and cannot afford to take the risks of doing a credit business. If we did such a business, we should be obliged to add at least 10 to 20 per cent. more to our prices, to make up for those who would never pay, and to pay the expenses of keeping book-accounts with our customers—this we know our **Cash** customers would not think to their advantage. This rule we must make general in order not to do injustice to any one. The cash system gives all the advantage to the cash customers, while the credit system works to their injury. In justice to all we must therefore require **Cash with the order.**

Very Truly Yours,

THOMAS G. NEWMAN & SON,

972 & 974 W. Madison St., CHICAGO, ILL.

STANDARD LANGSTROTH HIVE.



SAMPLE HIVE—*nailed, not painted.*
(14⅛x18¾ inches inside.)

No. 1.—Brood Chamber, 10 frames, portico, 7½ inch cap—but no surplus arrangement..... $1 25
No. 2.—Same as No. 1, with Comb-Honey Rack, complete..... 2 00
No. 3.—Same as No. 1, but having 20 frames, and Comb-Honey Rack—complete 3-story hive 2 50
No. 4.—Brood Chamber, 10 frames, and 7-inch story, with 7 cases containing Prize Boxes and tin Separators, for surplus Honey, with 2-inch cap..... 2 25
No. 5.—Same as No. 4—but having second story containing 10 extra frames—a complete 3-story hive..... 2 50
No. 6.—Brood Chamber, with second story containing 10 extra frames, for extracting, and 2-inch cap..... 1 75

☞ If painted, add 50 cents per hive.

MATERIAL—*cut, ready to nail.*

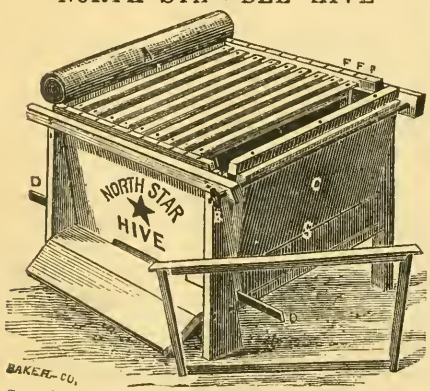
			One story.	Two story.
In lots of	5 each	No. 1,	.95	No. 6, $1.25
"	10 "	"	.90	" 1.20
"	25 "	"	.85	" 1.15

Material for Langstroth Frames.

Cut, ready to nail—(9⅛x17⅝ *inches, outside.*)

100 frames.....$1 50 | 1000 frames.....$14 00
5,000 or more frames, per 1,000..... 12 00

NORTH-STAR BEE HIVE



Sample Hive complete, with Comb Honey Rack, $3 00

MATERIAL CUT, READY TO NAIL.

In lots of 5, without comb honey rack.....$1 25
25, " " " 1 10

We also own the right for the "Manipulating Side," as applied to the New Langstroth hive.

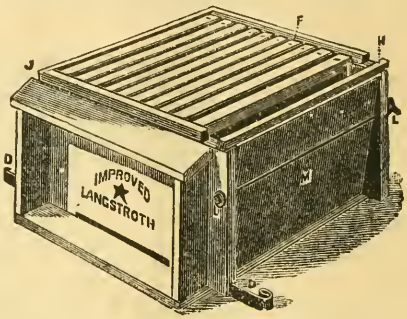
SPERRY & CHANDLER.

DOOLITTLE'S BEE HIVE.

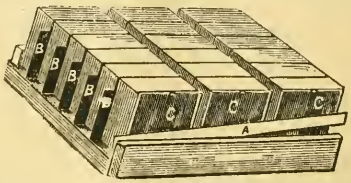
Sample, nailed not painted, two-story, with 30 prize boxes, complete.....$6 00
Material, ready to nail, 5 to 10 hives..... 3 50

NEW LANGSTROTH BEE HIVE,

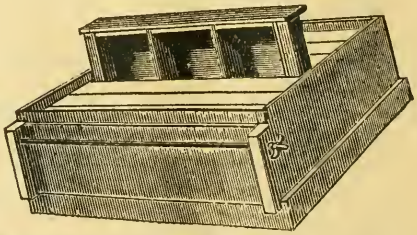
WITH MANIPULATING SIDE.



This is a combination of the Langstroth and North Star Hives, patented by Sperry & Chandler, Minn.



The above engraving shows the Comb Honey Rack as used on Hive No. 2. It contains 18 Prize Boxes, with 5 separators between them (B, B). The wedge (A) presses the boxes close together; by removing it any box may be examined, returned or replaced by an empty one. The outer boxes are glassed (C, C, C) when on the hive; the others are not glassed.



The above engraving shows the 1-inch second story of Hive No. 4, and contains 21 Prize Boxes and 7 Separators; each of the cases holding 3 prize boxes.

SAMPLE HIVE—*Nailed, not painted.*

No. 1—Brood Chamber, 10 frames, portico, 7½ inch cap, but no surplus arrangement..... $1 75
No. 2—Same as No. 1, with Comb-Honey Rack, 2 50
No. 3—Same as No. 1—but having 20 frames, and Comb-Honey Rack—complete 3-story hive.. 3 25
No. 4—Brood Chamber, 10 frames, and 7-inch story, with 7 cases (see cut) containing Prize Boxes and tin Separators, with 2-inch cap... 2 75
No. 5—Same as No. 4, but having second story containing 10 extra frames—a 3-story hive. 3 25
No. 6—Brood Chamber, with 10-inch second story containing 10 extra frames 2 25

All these hives have metal rabbets for frames to rest on. If painted, add 50 cents per hive.

MATERIAL—*Cut, ready to nail.*

(14⅛x18⅜ in. inside).

In lots of	5 each	No. 1, $1.25....	"	No. 6, $1.60
"	10 "	" 1.20....	"	1.55
"	25 "	" 1.10....	"	1.50
"	50 "	" 1.05....	"	1.45
"	100 "	" 1.00....	"	1.40

My Annual Catalogue of Vegetable and Flower Seed for 1880, rich in engravings from photographs of the originals, will be sent free to all who apply. My old customers need not write for it. I offer one of the largest collections of vegetable seed ever sent out by any seed house in America, a large portion of which were grown on my six seed farms. *Full directions for cultivation on each package.* All seed *warranted to be both fresh and true to name*, so far, that should it prove otherwise, *I will refill the order gratis.* The original introducer of the Hubbard Squash, Phinney's Melon, Marblehead Cabbages, Mexican Corn, and scores of other vegetables, I invite the patronage of *all who are anxious to have their seed directly from the grower, fresh, true and of the very best strain.* **New Vegetables a Specialty.**

12-4 JAMES J. H. GREGORY, Marblehead, Mass.

BEES FOR SALE.

Three Hundred Colonies.

One hundredColonies Italian Bees in Langstroth and Simplicity hives; 200 colonies in Triangular hives, black bees, to be delivered on board any Mississippi river packet after winter has passed. I invite Bee-Keepers to come and buy cheap.

GEORGE B. PETERS,
12-2 Peters' Landing, Ark.

ITALIAN QUEENS—All bred from Imported Mothers of my own importation. Dollar and Tested Queens from 1st April to 1st November. Full Colonies and Nuclei; Bee-Keepers Supplies of all kinds; Comb Foundation, etc.

6-tf PAUL L. VIALLON, Bayou Goula, La.

Friends, if you are in any way interested in

BEES OR HONEY

We will with pleasure send you a sample copy of our

Monthly Gleanings in Bee-Culture,

with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Artificial Comb, Section Honey Boxes,** all books and journals, and everything pertaining to Bee Culture. *Nothing Patented.* Simply send your address on a postal card, *written plainly*, to A. I. ROOT, Medina, O.

A NEW SHOP,

BUT OLD HANDS.

James Forncrook & Co. have just fitted up a New Shop for the manufacture of Bee Hives, Honey Sections, &c. Material for the Standard Langstroth Hive Cheaper than the Cheapest. We will make a Specialty of the "Boss" One-Piece Sections, heretofore called the Lewis Section, this being our own Invention. Send for Circular and Price List.

JAMES FORNCROOK & CO.,
1-2 Watertown, Wisconsin.

SECTIONS! SECTIONS!

Before ordering supplies elsewhere, send us a 3 cent stamp for a sample of our beautiful snow-white poplar Sections, dovetailed or to nail. These are the nicest and cheapest sections in the world; this no one will deny. Bee hives and other supplies made to order very cheap.

☞ Illustrated circulars free.

A. E. MANUM,
12-3t Bristol, Addison County, Vermont.

My Self-Hiving Apparatus

Will hive your bees, without your attention or assistance, and will not fail one time in one hundred. See American Bee Journal for January, 1880, page 56.

JOSEPH WILLIAMS,
2-tf Tates Springs, East Tenn.

SIXTH VOLUME.

Every Farmer, Merchant, Agricultural Implement Manufacturer, Dealer in Tools and Implements, Blacksmith, and all others interested in Manufacturing industries should read the

FACTORY AND FARM,

A Wide-awake, Independent, Forty-page Illustrated Journal of American Agricultural Industries, and Farm Implement Price List; each number containing one or more elegantly engraved portraits of leading manufacturers of the West, drawn and engraved expressly for the FACTORY AND FARM, and articles from the pens of leading writers on subjects of general interest.

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Bee-Keepers' Instructor,

A monthly devoted exclusively to Bee-Culture; only **50 Cents a year.** Sample copy free.

Address, **SAMUEL D. RIEGEL,**
2-7 Adelphi, Ross County, Ohio.

BEFORE PURCHASING

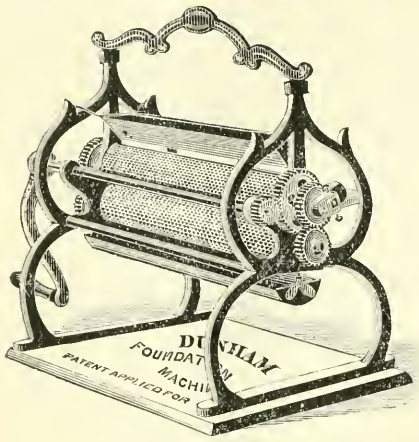
supplies for your apiary, send a postal card with your name, and if you will do us the kindness, the names of your bee-keeping neighbors, for our illustrated catalogue of apiarian supplies of every description, sample section box and comb foundation. We wish to present them to every reader of this Journal, and hence offer them **FREE.** Please send your name at once. Special attention given to rearing Italian Queens and Bees.

☞ The highest price paid for Beeswax.

I-8 J. C. & H. P. SAYLES, Hartford, Wis.

Ninety-four Colonies of Bees for Sale.—Mostly Italians, in Langstroth hives, double-wall, winter-proof, in best possible condition; all straight worker combs. Price, **$6.00** per hive. Address,

12-tf A. W. SORY, Devall's Bluff, Ark.



FRANCES DUNHAM,

Inventor and Sole Manufacturer of the

Dunham Foundation MACHINE.

12 inch	rolls		$57.00
9	"	"	38.00
6	"	"	27.00
4	"	"	19.00

Dealer in

All Articles Necessary in the Apiary.

—:-o-:—

Dunham Foundation a Specialty.

☞ Circular and Samples free.

DEPERE, BROWN CO., WIS. 2-6

CANADA.

Brother Bee-Keepers: I will have my **NEW COMB-REVERSING EXTRACTOR** (extracts both sides by reversing machine), ready for the market in March. Also, a full assortment of the best Apiary Supplies cheaper than ever.

☞ Descriptive Catalogue sent free to any address.

W. G. WALTON, Hamilton, Canada.

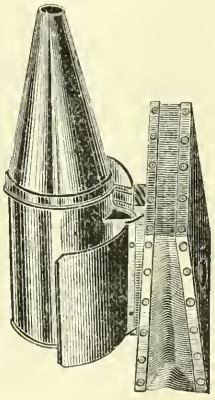
N. B.—For the convenience of American Bee-Keepers, I have completed arrangements with parties in Buffalo, N. Y., to manufacture my Extractor for the United States. 2-7

Land in Florida for Sale.

Timber Land in Northern Florida—640 acres—about 50 miles south of the Georgia line, 25 miles west of Tallahassee, and near the Apalachicola river. Title clear and unincumbered. Will sell cheap for cash, or trade for a farm, apiary or other property. Address, with particulars, FLORIDA LAND, care AMERICAN BEE JOURNAL, Chicago, Ill.

THE ORIGINAL DIRECT-DRAFT OR

BINGHAM PERFECT SMOKER.



Patented Jan. 9, 1878. Re-issued July 9, 1878.

If you buy a Bingham Bee Smoker you are sure of the best and cheapest, and that you are not liable to prosecution for its use. The largest and most scientific bee-keepers use Bingham Smokers, some using as many as fifteen in their various apiaries.

No Bingham Smoker has ever been returned. No letter has ever been received complaining that our Smokers did not give entire satisfaction; but we have received hundreds of letters expressing the most unbounded satisfaction and appreciation of our invention.

The Extra Large Smoker and the Extra Standard for 1880, will have our new extra wide shields, which entirely protect the hands and bellows from heat and remove the danger of burning the fingers. Practical bee-keepers will find these wide shields an important improvement. The P ain Standard and Little Wonder Smokers will be better than ever before, and superior to any imitation smokers, whatever their size may be.

Hundreds of them have been in constant use three seasons, and are now as good as new. One dollar and a half is not much for the use of such an instrument three seasons; is it?

BINGHAM & HETHERINGTON

HONEY KNIFE.

Patented May 20, 1879.

It is a large, strong, durable knife, polished and tempered like a razor, and so formed and sharpened as to cut both ways, over hills and through hollows all the same, without dropping a cap on the honey. The most world-renowned, practical and scientific Bee-Keepers in Europe and America pronounce it "the best Honey Knife ever made."

Extra Large Smokers	2½ inch,	$1 50
Extra Standard Smoker	2 "	1 25
Plain Standard Smoker	2 "	1 00
Little Wonder Smoker, $3.00 per half-dozen; each	1¾ "	75
Bingham & Hetherington Knife		1 00
Bingham & Hetherington Knife and Cap-Catcher		1 25

If to be sent by mail, or singly by express, add 25 cents each to prepay postage or express charges.

☞ Send for circular. If to sell again, apply for dozen or half-dozen rates. Address,

T. F. BINGHAM, or **BINGHAM & HETHERINGTON, Otsego, Mich.**

THE AMERICAN

BEE JOURNAL

Devoted Exclusively to Bee Culture.

Vol. XVI. CHICAGO, ILLINOIS, FEBRUARY, 1880. No. 2.

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☞The Agricultural Report for the State of Tennessee, says that the industry of bee-keeping is fast gaining favor in that State. Twenty-five colonies are exempt from execution there.

Editor's Table.

☞In California, bees are represented to be in good condition—the loss having been much less than usual. The prospects for honey this season are said to be good.

☞The California *Agriculturist* is credited with a silly article now going the rounds of the agricultural press, stating that tons of sugar can be converted into honey by being fed to bees, &c. &c. It is perfectly preposterous. Sugar is only fed to bees to keep them from starving. No matter what the bees may do with it, it would never become honey; only sugar, first, last and always.

☞Alsike clover possesses all the excellent qualities of the white clover for honey production, and, besides this, as food for animals it is equal to the red. This variety of clover is a native of Sweden, and in Europe it is cultivated quite extensively. It is also abundantly grown in many parts of this country. It has pale red flowers, a somewhat lank stalk, and oval, obtuse leaves, which are smaller and of a lighter green than those of red clover. The flower head growing from the upper leaf joint, is globular, and formed of fragrant blossoms supported by stems. These blossoms are at first whitish and upright, and subsequently of a pale red, and when the flowering has past, become brown and somewhat bent.

The Last Drone of Summer.

'Tis the last drone of summer left trembling alone,
All his lazy companions are conquered and gone;
No worker of his kindred, no queen bee is nigh,
To reflect back his blushes, or give sigh for sigh.

I'll not leave thee, thou lone one, to pine at thy door,
Since the doomed ones are sleeping, thou shalt add one more,
Thus softly I push thee to the earth—thy bed,
Where thy mates of the bee-hive lie friendless and dead.

So soon may I follow, when friendships decay,
And from Love's shining circle the gems drop away,
When true hearts lie withered, and fond ones are flown,
Oh! who would inhabit this bleak world alone.—*Sel.*

Sections all in One Piece.

The great popularity which these sections have obtained from their use last season, is an incentive for bee-keepers to use them almost universally the coming season. As there are many inquiries as to their form and method of putting them together, we give below cuts to illustrate these points.

Fig. 1 represents the 4¼x4¼ section all in one piece. The grooves are repre-

Fig. 1.

sented by a, a, a. The wood should be dampened on the smooth side opposite these grooves, and then glue can be rapidly inserted in these joints, and also on the dovetailed ends by placing several sections in a row, and drawing the glue-brush over from 6 to 10 with one stroke, then fold them up and they will become very firm and solid. Fig. 2, which represents a 5¼x6¼ section, shows how

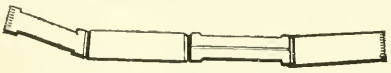


Fig. 2.

the pieces are bent to place, by the left-hand piece, which is bent upward. When put together with glue, they are the strongest sections made, infinitely superior to the common dovetailed sections, which are so easily put "out of square," and are fully equal in every respect to the nailed sections as to strength, much more easily put together, and when used, form a very attractive package.

Prizes for Honey and Bees at Fairs.

During the first three months of the year, the premium lists for County, State and District Fairs are usually made up. It is, therefore, time for the Vice Presidents of the National Society to commence work. We respectfully suggest that they communicate *at once* with the different official Boards of the Agricultural Societies in their respective States, and endeavor to induce them to offer appropriate prizes for bees and honey at the Fairs for the present season. The following or something similar would be about the thing to recommend in the line of prizes:

Best package of honey in the comb, one pound or more.

Best package of extracted honey, one pound or more.

Best crate of honey in the comb, in the most marketable shape.

Best display of honey, both comb and extracted.

Best machine for extracting honey.

Best display of bee-keepers' supplies.

Best colony of Italian bees.

Best exhibition with a colony of bees, in movable-frame hive, including their public manipulation.

Best show of beeswax.

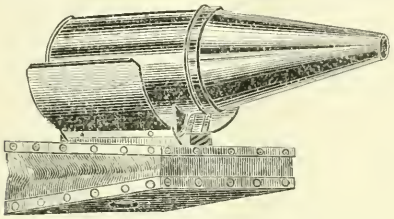
Best bee hive for all purposes.

☞ In the Indianapolis *Sentinel* we notice a description of the apiary of Mr. F. L. Dougherty, the courteous Secretary of the Indiana State Bee-Keepers' Association. In the course of the article we find the following remarks:

"Mr. Dougherty commenced operations four years ago, with 10 colonies of bees and but little capital, but by industry and care has increased to 44 colonies, and his net profits the past year has been upward of $600. His workshops are supplied with all the latest improved machinery for extracting honey, making boxes, hives, etc. Mr. Dougherty is also the editor of the bee department of the *Indiana Farmer*, and being a man of considerable education and a close observer, has added very materially to the interest in bee-culture throughout this State."

Smoker with Wide Shield.

Mr. Bingham has sent us one of his improved extra large Smokers, as he intends to make them for the coming season. By the accompanying engrav-



ing, it will be noticed that he has added a "wide shield," which will hereafter be found on the two largest sizes. This entirely protects the hands and bellows from heat, and removes the danger of burning the fingers.

Some New Bee Feeders.

Last fall, Mr. H. H. Cheney, of East Saginaw, Mich., gave us a sample of his new atmospheric bee feeder, consisting of a tin can, the ends being nearly of the shape of a heart, the body being about 8 inches across, the feed trough running from one point of the heart-shaped end to the other, and about ¼ inch deep. It has a convenient handle which also serves for a foot. It is sold at 75 cents.

In the *Bee-Keepers' Magazine* for January, Mr. King gives the following description of his "new bee feeder:"

"Imagine a box 9 inches long, 1¾ wide, and 2 inches deep; closed at both ends, without bottom or top, made of lumber 3-16 inches thick. The bottom edge of sides and ends are grooved. The bottom of this box is brown muslin and is held in place by being confined in the grooves by wedging in thin strips of wood. The top is the top-bar of a movable frame, about 1½ inches wide with a hole bored in it to admit the syrup or honey. It is hung in the hive the same as a frame and the bees take the feed through the meshes of the muslin on the bottom of the feeder. To use this feed successfully let the muslin be heavy and fine, and the syrup not too thick, lest it bother the bees to get it fast enough; nor too thin, lest it drip on the bees, and do not suffer it to get empty, lest the bees gnaw holes in the bottom. One quart A sugar, one pint water; boil and skim, and feed when quite warm. Daub a little on bottom of the feeder to induce the bees to commence feeding."

This feeder is very similar to the one described in the BEE JOURNAL for last April. It was sent to us by Mr. F. Huntley, of Webster City, Iowa, and that is practically the same as the Dunham feeder, with the exception that the latter was made of tin.

Dr. E. Parmly, of New York, has sent us the following description of a "new honey-board feeder," which may interest those who still use honey-boards:

New York, Jan. 19, 1880.

I cannot say whether the wire bottom honey board feeder is a new thing or not, but I have found it to answer as well, if not better, than anything I have ever tried for the purpose. It has the merit of being simple and cheap and can be made by any one who can use a saw and drive tacks. Make a hole in the center of the honey board say 2x8 inches or larger, tack on the under side a piece of coarse wire-cloth. Put in this a piece of muslin, large enough to form the bottom and sides, and fill with feed. If the feed is thin, or the colony weak, it may pass through too rapidly, in this case you can double the muslin or thicken the feed. By removing the cloth you can look through the wire and see just how many mouths are being filled, which you could not do if the wire bottom was of fine mesh. One or two thicknesses of old carpet or a mat over the opening and you have a good arrangement for ventilation. Food placed in this feeder warm and covered with a mat, can be consumed in the coldest weather. Thin slats of wood may be used instead of wire, but wire gives the largest feeding surface.

E. PARMLY.

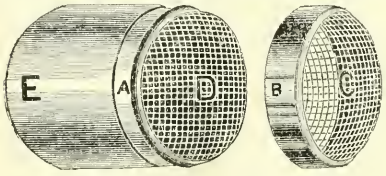
As the feeding season will soon be at hand, these descriptions will be read with interest.

☞ The weather in this vicinity has been so warm and pleasant that the willow buds are already beginning to burst. Either they will catch a severe cold, or we shall have an unusually early spring.

Harris' Queen Shipping-Cage.

We give below an illustration of the queen shipping-cage exhibited by Prof. Cook at the Post Office Department in Washington City, provisioned and containing live bees at the time of exhibition, and which received the approval of the Postmaster General for shipping queens and bees in the mails.

The body of the cage is made by boring a chamber 1¾ inches in diameter in a nicely turned block (E), to a depth of about 2 inches. A wire-gauze cap (D) fits in the top of the cage, and forms the inner covering, while the outer cover (C), with a ½-inch tin band (B) fits nicely



n the turned depression (A), forming a double cover, with a ¼-inch space between. These covers, when removed, form admirable cages for introducing queens, requiring but little time and no risk. To introduce, lift the frame from the hive with the queen to be superseded, remove her, then shake the bees in front of the hive; then liberate the queen to be introduced on the comb, selecting a spot with a few cells of honey; place one of the covers (C or D) over her, and by a pressure and half-turn firmly imbed it in the comb. Care must be taken that the queen does not escape while placing her on the comb, and the safest plan is to take the frame to a window in the house, after shaking the bees off. When the queen is securely imprisoned replace the frame in the hive, and let her remain 48 hours, after which she may be released. These cages are provided with candy for a journey. There is a hole in the bottom of the cage for convenience in putting in the queen and her attendants. We are indebted to the ingenuity of Mr. J. L. Harris for this cage, which is very neat, comprehensive, and so light that a 2-cent stamp prepays the postage. It is not patented.

Electricity and the Bees.

In our last JOURNAL on page 12, we remarked that we had not heard of electricity being used to quiet the bees while taking the honey from them. Since that, we have received from Greiner Brothers, Naples, N. Y., a long account of experiments with electricity in hiving bees, made by Herr Freiwith, in Germany. We expect to be able to find room for the article in our next issue; meanwhile we give the points:

His original idea was to stupify the bees by application of electricity; and experimental trials on single bees and clusters, resulted in his being able to shock the insects into a state of insenibility lasting for periods varying from minutes to hours, according to the strength of the current employed. Encouraged by his success, he applied the method to bees actually in the hive. With this aim, he inserted the ends of two conducting wires into a fully occupied honey-comb, and turned on the current for a moment; the bees soon strewed the floor of the hive and did not recover their activity till half an hour after. Herr Freiwith then constructed a small portable apparatus, consisting of the battery and induction coil for generating the electricity, a key to turn it on or off, and wires attached to rods whereby it can be directed on a colony so as to shock the bees into a harmless insensibility.

☞ In *Gleanings* for January, Novice says that he has "received a sample of grape sugar made at Sagetown, Ill., that will, without question, kill bees." He then adds: "I should expect it to kill any thing that was compelled to eat it." Why take any risk by feeding bees with such trash? Better use honey or sugar syrup, and be on the safe side. As this winter will be an open one, with many chances for winter flights, we expect to hear the advocates of grape sugar claim that it is excellent food for wintering bees; but had it been a severe winter, they would have changed their tune. We mention this in advance so that no one may be deceived by such unfair tests. It must be tried for several winters before we can arrive at safe conclusions.

Bee-Culture and the Census.

Heretofore, we have had no reliable statistics for the whole of the United States with reference to the products of bees. Some of the States have, it is true, given partial statistics through their agricultural bureaus, but even in these, the incompleteness was very annoying, rendering them almost useless. Two years ago an attempt was made to get such to present before the National Convention at New York. Application was then made to the Commissioner of Agriculture for such statistics as were to be found at the National Capital. The meager returns from the Department at Washington revealed the fact that no attention had been paid to this growing industry, even though it had already assumed immense proportions —the products of honey and wax amounting to millions of dollars, annually.

As soon, therefore, as the Census Bureau was formed, to which was committed the preparations for taking of the "tenth census of the United States," we, as "President of the North American Bee-Keepers' Society," communicated with that Bureau, through Gen. LeDuc, Commissioner of Agriculture. We endeavored to impress upon the Census Commission the importance of the industry of bee-keeping, and the value of correct information concerning its magnitude. We were then assured by the Census, Commissioner that the bee-keeping industry and honey and beeswax production, should receive appropriate attention.

Not having heard anything further on the subject for about a year, and fearing it might be again overlooked and be omitted from the instructions and blanks given the "Census takers" in the several districts of the United States, we wrote on Dec. 15th, 1879, to special agent J. R. Dodge, Esq., who has charge of the department of agricultural products, calling his attention to the matter and inquiring if the necessary steps had been taken to obtain complete returns concerning bees, honey and beeswax in the forthcoming Census. In reply we have received the following letter from the Superintendent of the Census assuring us that "every effort will be made to secure complete statistics," &c.:

Dep't of the Interior, Census Office,
Washington, D. C., Dec. 24, 1879.

Thomas G. Newman, Esq., President National Bee-Keepers' Society, Chicago. Ill., 974 West Madison St.

SIR: Your communication of the 15th, inst., addressed to J. R. Dodge, Esq., Special Agent, has been referred to this office. In reply to your inquiry, I would say that every effort will be made to secure complete statistics of the production of honey and beeswax, in the approaching tenth Census of the United States. The agencies best suited to this object are now under consideration. Yours very truly,

FRANCIS A. WALKER,
Superintendent of Census.

Knowing that the bee-keepers of the United States will be exceedingly gratified with the assurances given in the above letter, we shall offer this Report for publication simultaneously to all the bee-papers of the United States. Our object being to request the bee-keepers throughout the country to be careful, while filling up the Census blanks, to give the number of colonies they have, and whether natives, Italians or hybrids; the number of pounds of honey produced, whether of honey in the comb or extracted, and the number of pounds of wax produced annually.

☞ The Albany Co. Bee-keepers' Union Association will hold their annual Convention on Tuesday, May 11th, 1880, at the Geological Lecture Hall, Albany, N. Y.

The American Entomologist, is the name of a new monthly, published by Max Jaegerhuber, 323 Pearl St., New York. It is edited by Professors C. V. Riley and A. S. Fuller, and is devoted to practical and popular Entomology. No. 1 is on our desk and contains 24 pages well filled with articles of value. It is published at $2.00 per year.

Queens in the Mails.

It will be remembered that at the late session of the North American Bee-Keepers' Association, a committee was appointed to interview the Post Master General, and endeavor to have the ruling excluding bees and comb foundation from the mails, reversed. Prof. Cook was chairman of the committee, and he has visited Washington for that purpose, and has, we are glad to say, been successful, as announced in the following telegram from Washington, on the 14th ult. :

"The postoffice department, on recommendation of the National Bee-Keepers' Association, has reconsidered the order excluding queen bees from the mails. Queen bees and their necessary attendants will be allowed to go through the mails so long as no one is injured by them."

A few days after we received the following letter from Prof. Cook, confirming the dispatch :

Columbus, O., Jan. 15, 1880.

DEAR FRIEND NEWMAN: The victory is gained. I am just advised that the order refusing to carry queens and foundation is repealed. The sugar in lieu of honey, and the double gauze ¼ inch apart as a shield, won the day.

We are much indebted to Hon. Edwin Willits, of Michigan, who granted me much aid. It is a good point gained.

Yours truly, A. J. COOK.

Bee-keepers generally will give Prof. Cook a vote of thanks for his efforts in the matter, and he richly deserves them.

☞ In the *Bulletin D'Apiculteur*, published by friend Bertrand in Nyon, Switzerland, we find the following item :

"With alacrity we received our mail matter from America. The Hon. T. G. Newman, in the AMRICAN BEE JOURNAL for October, gave a particularly flattering account of his visit to the Society Romand D'Apiculteur and of his good reception in Switzerland. The same JOURNAL contained a detailed account of our Assembly of August 21st. Mr. Newman will return home in good time to preside over the American National Apicultural Convention to be held in Chicago, on October 21st."

Bee Stings as a Remedy for Gout.

A person suffering from the gout, writes in the *Augsbury Abendzeitg*, the following for the "benefit of humanity:"

"That the sting of bees has the effect of immediately mitigating the unspeakable pains of this disease, has been announced in several articles by patients that are now convalescent.

One remarked as follows : On March 28, when I was stretched out upon my bed, suffering the most excruciating pains from the gout in my left foot, being scarcely able to move that part of my body, one of these articles fell into my hands, in which a colleague humorously described how he was cured by the stings of bees. Having tried a great many things, in fact everything that was offered to me, in the hope of ridding myself of this painful disease, finding them all humbugs, I resolved to have the diseased part stung by bees. Without delay I constructed a small box, so arranged that only one bee could crawl out from it at a time, after which I would close the door. With a small stick, the top of which had been dipped into honey, I took up the bee and placed it upon the affected part, immediately after which the sting followed. A second and third bee was treated in like manner, and I underwent the same treatment from them. After the lapse of a few moments the stings, that were left behind, were removed from the foot, and after the pain had subsided that was caused by the stings of the bees, the pains from the gout also disappeared. On the same day I left my bed and on the day following I felt myself able to attend to the duties of my occpation (I am a forrester). For some time I experienced a slight burning sensation in my foot, but that also left me, after 4 or 5 days. I give publicity to this, hoping that my companions in suffering may also find alleviation and cure by employing the same remedy."

The Workshop Companion : A Collection of Useful and Reliable Recipes, Rules, Processes, Methods, Wrinkles and Practical Hints, for the Household and the Shop. Price 35 cents. New York : Industrial Publication Co.

This book covers a very wide range of subjects, there being no less than ninety main articles, some of which contain as many as sixty sub-headings, forming an almost complete encyclopædia of practical, every-day information.

☞ Mr. Geo. M. Hawley, Vice President of the National Society for Nebraska, gives his views of the late Convention, in Chicago, in the *Nebraska Farmer*, in the following language:

Being appointed Vice President for this State, and hoping to gain more knowledge upon some points in bee-keeping, I attended the National Convention. There I met brother bee-keepers from nearly every State in the Union, as well as from Canada; becoming personally acquainted with many whose names had long been familiar through the press. They held a forenoon and afternoon session each day, and an evening session on the second day. The other two evenings were spent in a social gathering at the office of the AMERICAN BEE JOURNAL, where they had nearly everything represented in the line of bee-keepers' supplies—hives of every description, honey extractors too numerous to mention, honey knives, bee-veils, bee-smokers, and bee literature to your heart's content. Here we had an opportunity of contrasting the relative merits of the different implements before us, such as could not be found anywhere else, which will render us more capable of making selections in the future. The advantages that we had here of quizzing the older and more experienced bee-keepers upon questions of importance to us—facts of too little general moment to come before the Convention—was of greater importance to most of us than the regular meetings, since it is the attention to the small things that makes the successful apiarist. The theory may be very fine and conclusive, but neglect one of the little items of importance, and failure is the result. While we were at considerable expense in attending the Convention, we hope that through our acquired knowledge, the fruits of its labor may be manifested in our future work.

☞ We have received Vick's Floral Guide for 1880, and it is really one of the most beautiful things we have ever beheld. Its paper, printing, illustrations and general appearance is a credit to America. It contains 100 pages and an elegant colored plate, and is filled "brimfull" of illustrations. We can give no better advice to all our subscribers who love flowers than this: Send 5 cents to James Vick, Rochester, N. Y., and ask him to send you a copy.

Frogs as Bee Enemies.

The following article is translated from the *Bienen Vater*, published in Vienna, Austria, by Herr Karl Gatter:

Like every other living creature in nature, the bee also has its enemies. It is well known that many birds, especially the swallows, snatch up the bees in their flight; but here we mention another enemy of the bee, which by many has not been known as such; it is the frog, the brown and the green. That his abiding place upon fields of white and red clover, is a well-known fact, but this does not happen without good cause. To these fields, but especially to the ones covered with the delicious white clover, the bees come to gather and to leave again laden with their sweet burdens. But many of these industrious workers never again behold their homes, as they become a dainty prey to the frog. With greedy eyes, wide open, like a miniature tiger, he sits there staring and watching for his prey, without a sign of ever tiring, until the little insect has sunk the forepart of its body deep into the flowery cup, then with a well-calculated leap he springs upon the bee and flower, not caring for the stings he may receive, for he is "cold-blooded," and the bee has ceased to live.

In the skinny stomach of a dead frog were found no less than 11 bees; quite a nice potion for a frog! This may explain to many a bee-keeper the gradual diminution of his bees. The frog is a dangerous enemy of the bees, but we do not say that frogs should be exterminated, for they also destroy many other insects that are injurious. All we do say is: Do not permit him near the hives, for there he would have too much of a good thing, preying exclusively upon bees.

☞ We have received the 28th Annual Report of the Indiana State Board of Agriculture. It contains the Reports of the Associations of the several departments of agricultural industry. The State of Indiana fosters these different Associations, and gives them aid and encouragement and sets an example to many other States. The Bee-Keepers' Convention held last month will be fully reported in the next volume. A stenographic report was produced for that purpose.

Shipping Honey.

Much has been said and printed concerning the putting up and shipping of honey, and yet some do not seem to comprehend the necessities of the case. A bee-keeper has shipped us some honey in the comb during the past month that illustrates how much we need to repeat, time and again, the simplest instructions. The lot in question was put up in prize boxes, and one dozen of these were placed in each prize crate. Then, instead of shipping them just as they were, he placed 8 crates in a single box, constructed of quite heavy lumber, with a strip nailed on each side, projecting 4½ inches at the ends to serve as handles, and the whole weighing nearly 300 lbs. In the bottom of the box was about 2 inches of sawdust, and to cap the climax, a thick covering was nailed on with ten-penny nails, never thinking that the hammering-in of so many of these large nails would break down the honey, and that the box being so heavy the railway employees would roll it over upon a truck, and wheel it over rough places, seriously damaging it; or, in unloading, the box being heavy, they would slide it down a plank or drop it, &c.—and all this because of the size and unhandy condition of the package. Now, if the prize crates had been shipped just as they were, the railway men could have seen what they contained, and being small and convenient to handle, they would, in nine cases out of ten, move them by hand, and thus save annoyance and loss to the shipper. These facts led to the general adoption of prize crates for comb honey, in connection with the fact that they were in more marketable shape, satisfying both dealer and retailer with their convenient form and ready sale.

The shipper of this lot has cause to profit by this lesson, so dearly learned; but we wish to impress the fact upon *all* who are shipping comb honey, that it should be put up in small packages; that it should be assorted, never allowing partly-filled combs to be put in with prime honey, nor admitting any off-color or dark combs to be put in; also, never to veneer the crates (that is putting all good combs outside, and then filling in the center with refuse or dark combs, or those only partly filled). Such will damage the seller more than anyone else, for the honey will be likely to be *all* graded as second or third quality, when perhaps but few combs were other than of first grade.

Another thing should be kept in mind, always to turn the top-bar of the sections downward when packing them in the crates—that being the strongest way of the combs, and also, if all the combs should not be quite built down to the bottom, they will not be in such danger of breaking down as they would if packed standing the same way as they do on the hive.

These points are so essential that they should never be lost sight of by shippers of comb honey.

Extracted honey should be shipped in *small* barrels, the large ones being unhandy and less salable; large square and round cans are not as desirable for packages as small barrels, kegs and tin pails. The convenient shape and size of packages are very important points.

☞ We would call particular attention to the meeting of the North-Eastern Bee-Keepers's Association, which will be held at the City Hall in Utica, N. Y., on Feb. 11th, 12th and 13th. The notice in full was published in the last BEE JOURNAL, on page 54.

☞ By an advertisement in this issue, we notice that Mr. L. C. Root has taken his brother into partnership. We wish the new firm success.

☞ There will be a Bee-Keepers' Convention at Davis Junction, Ogle Co. Ill., February 10, 1880.

☞ The Cortland Union Bee-Keepers' Association will meet at Firemen's Hall, Cortland, New York, on Tuesday, February 3, 1880. All bee-keepers are cordially invited to attend.

J. G. BINGHAM, *President.*

Correspondence.

For the American Bee Journal.

Feeding Extracted Honey to be Stored in Sections.

G. M. DOOLITTLE.

We are asked to give our views of the practicability of feeding extracted honey to produce comb honey. Quite an excitement has been caused in this direction by the experiments given in the book "Blessed Bees," as claimed to have been conducted by the author. As Mr. Allen quotes Doolittle in his notes to prove his position to some extent, perhaps a few words regarding the matter will not be amiss. We know of no better way to illustrate what we wish to say than to give our experiments, the first of which were conducted in 1876.

During 1875 we received our first foundation, sent out by John Long (Wm. M. Hoge), and as the bees accepted it readily, we thought here was a chance to make a profitable business by extracting our honey during the flow of white honey, and to feed the same back to the bees, to be stored in boxes during the period of scarcity we always have between white honey and buckwheat. By the use of foundation much could be saved by the bees in comb-building. Accordingly, after the harvest of white honey was over in 1876, we prepared three colonies that were strong in numbers in this wise: The first was given 28 prize boxes nearly filled with foundation, and 2 boxes in the centre at the top full of comb and two-thirds full of honey.

The second was given 21 boxes from one-half to two-thirds filled for market for the bees to finish up; the 21 weighing, when put on the hive, 35 lbs. or thereabouts. The third was given 21 boxes with only starters in them, just as we have described in the AMERICAN BEE JOURNAL during the past year. We fed each colony all they would carry, and kept a record of each one. We do not find the record just now, when wanted, but quote from memory, which is nearly if not quite correct.

Each one took 15 lbs. (the first feed) before they made any start to work in the boxes. Soon after, those having boxes two-thirds filled began lengthening the cells and storing honey, and when they were completed, ready for market, we had fed 42 lbs. of extracted honey. Upon weighing them again, we found they weighed 47½ lbs.; so we had fed 42 lbs. to make a gain of 12½ lbs. in the boxes. Thinking that perhaps they would do better on a second lot, we immediately put on 21 more, weighing about 34 lbs., and fed 39 lbs. to get them finished. Those were not filled so full, and only weighed 46 lbs. when finished. So we fed 39 lbs. to make a gain of 12 lbs. the second time. No. 1, with the foundation, were fed till we had given them 134 lbs., when we took the boxes off, having 22 finished, which weighed 49½ lbs., and 8 unfinished, weighing 13 lbs.; so we had 62½ lbs. gross weight as a return for 134, and a cost of $1.25 for foundation at the prices then asked for it.

Our experiments with colony No. 3 were never completed. After we had fed them 50 lbs., or thereabouts, they went to building comb quite nicely, but it soon seemed to become an old story, and after awhile they simply lived out of the feed-dish, and done nothing else. If we recollect aright, we obtained about 25 lbs. in the boxes, mostly unfinished, after feeding nearly 125 lbs. Twice since we have conducted similar experiments with partly-filled boxes, as in the case of No. 2, with just about the same results.

In all our feeding operations we have ascertained this fact, that bees fed in excess of what they consume in feeding the brood, become idle, simply living out of the feeder and not getting an ounce from the fields, while those not fed will nearly get a living from the fields. If fed when honey is plenty in the fields, they will store no faster out of a feeder than others not fed will from the fields; while those storing from the fields work in the boxes with double the energy which those do that are being fed. The experiments given above prove the fallacy of those given in "Blessed Bees."

Another thing is proven by these experiments, and that is that the great cry about a year ago of box honey made of glucose was groundless. Glucose will have to fall below the price that it now brings before it can be made profitable to feed for bees to store in boxes. That extracted honey is largely adulterated with glucose there is no doubt. The great prejudice there has been in years past against candied honey has been the main reason for this adulteration, and a greed for gain the minor one. If we, as producers, can turn the prejudice so it will be against liquid honey, or secure the passing of a law requiring the correct labeling of all articles sold, the cry of "adulteration" will soon be a thing of the past.

Borodino, N. Y., January, 1880.

For the American Bee Journal.

Advantages of Comb Foundation.

E. PICKUP.

Last summer I hived 4 swarms in boxes, about half filled with comb foundation, and they gathered about enough to winter on, while equally as good swarms hived at the same time without foundation will starve, unless fed.

This is enough, I think, to show that comb foundation is a success; especially when we consider the advantage of getting straight combs with its use; also in getting worker comb, instead of so much drone comb.

I think the Italians proved their superiority over the blacks, in the poor dry year of 1877, in California. The judicious use of comb foundation in a poor season, like the last year, will be quite an advantage. I expect to continue its use next year.

My bees flew every day this year, thus far, especially on the 6th. The thermometer stood at 52° above zero; while at the same time last year, it was 20° below zero, that was our coldest spell; a difference of over 70°.

Limerick, Ill., Jan. 9, 1880.

For the American Bee Journal.

Market Quotations for Honey.

DR. C. C. MILLER.

United action on the part of bee-keepers in settling upon the price at which they can afford to sell honey, may be one of the things to be accomplished in the future, but it is quite likely that the ordinary laws of supply and demand will control the matter, the same as they control the price of wheat and corn. Although I have little faith in any extraordinary concert of action amongst producers as to the price of honey, I have faith in the same kind of concert of action as takes place among farmers with reference to the price of wheat and corn. There seems to be a somewhat rapid progress toward the settling of honey into its proper place as a staple article, which progress will be hastened by concert of action among bee-keepers. Not by a meeting and settling in convention the price at which honey can be afforded, and a resolution that no one shall sell below that price, but by the general diffusion of knowledge as to the condition of the market with reference to supply and demand, the amount of honey in the country and all the items that might influence the price. For this diffusion of knowledge we must look almost entirely to the press and especially to those publications which make a specialty of bee-culture. Through these we are to learn whether the crop is light or heavy, and this knowledge alone is of great value even to those who depend entirely on their home market. If I know that there is a general failure of the crop, whether my own harvest is light or heavy I am safe in asking a good price for my honey at home, without fear that the local dealers will send to Chicago or New York and bring in honey to undersell me. Especially do I need to be informed about the markets, if I produce largely, and ship to one of the larger cities. If I could sell outright my crop of honey at one transaction to a cash buyer, that would suit me best, but if I can get a better price for it by sending to a commission house I should so send it, even if it must be sent in several lots, and it is of some consequence to be informed from time to time as to the state of the markets, that I may know whether it is best to crowd my crop in, or hold back for an emptier market or a higher price. We need light on every point bearing upon the subject, and it is the province of the bee papers to give us that light.

If the price demanded by commission men upon the same grade of honey varies 3c. per pound then can they not tell us what that price is, with the variation of 3c.? At any rate can they not give us what information is to be had on the subject? Each month we have reliable reports from New York as to the leading commission houses of that city, and is there any reason why we cannot have the same information with regard to Chicago? It is not the price that commission men demand that should be reported, for they in some cases demand according to instruction from consignees, a much higher price than they can obtain, but the thing wanted is the price at which they are making sales. If the objection is made that they vary in prices, that objection holds with greater force against buyers' quotations, for last year there was a varation of more than 3c. in the offers I had on the same grade of honey from three different Chicago buyers.

I may be pardoned for disagreeing with the AMERICAN BEE JOURNAL, when I say I believe there need be no great difficulty in ascertaining the price at which commission men can sell honey. From New York we get quotations with dates and authorities. If I write to Chicago commission men I get

just as definite figures, at which figures they say they can sell honey, and can we not have regular reports through the press as to those figures, together with any items of information that will help us to dispose of our crops intelligently? This full information as to what buyers are giving, what commission men are selling at, the present quantity on the market, the prospect for the future, &c., this it is that will help to make honey as staple as wheat and corn.

Marengo, Ill., Jan. 13, 1880.

For the American Bee Journal.

Failures in Bee-Keeping.

R. M. ARGO.

From 14 years' experience with Italian bees, and 25 with the natives, I think I can safely say, without fear of contradiction, that every case of failure in bee-keeping may be traced to the manager alone, and not to the bees or the hive. It is like one commencing to practice medicine without having first learned how to do it successfully; or if learned, his practice was of such a bungling nature as to insure failure. Bees require scientific and prompt attention at the right time, and the apiarist should be thoroughly able to render this attention, or else he should let bees alone.

Have you ever known of a practical apiarist, of several years' experience, to quit bee-keeping from failure. I know of none that failed, but Mr. Gallup did leave it to follow another business that would not allow him time to attend to his bees properly. No one who has failed can say that it was not his own fault.

Farmers in the neighborhood of an apiary think the apiarist is doing as well if not better with his bees than they are with their farms, and so they procure a few colonies in such hives as they see him using. They place them in the most unfrequented corner of the yard, either in the sun or too much in the shade. No further attention is paid to them till the time of "robbing," and then, if they get say 15 lbs. of honey per hive, they are satisfied. If not, they think they have not got the right kind of hive, for they have no other notion of success than the hive used: and they think that success or failure attaches to the hive they use. What would such persons think of an apiarist who might tell them that he could take a large colony of bees, 8 empty Langstroth frames, and a few honey boxes, and without any hive, so arrange them in a good season as to get from 50 to 100 lbs. of surplus honey, and can either put the frames in a hive in the fall for winter, or pack them away in chaff without a hive, thus proving that it is not the hive but the management that insures success?

I always tell persons that if they have not considerable time and patience they should let bees alone. When a man has the bees and not the time and patience, or does not understand how, it would be better to let an apiarist take them on shares or give him one dollar per colony to care for them, than to get little or no surplus.

In a few years I think the time will come when the whole bee business will be in the hands of specialists who thoroughly understand it, and it is from this class alone that we can expect the best results.

I must not be understood to say that a good hive has not much to do with success, but that much more depends upon how that hive is managed.

My bees are all right now. We have as yet had no winter; but are having warm rains.

Lowell, Ky., Jan. 17, 1880.

For the American Bee Journal.

My Profits and Losses for Three Years.

A. J. WRIGHT, M. D.

The following are my profits and losses from bees since 1876:

DR.		
Spring, 1876—To 1 colony of bees	$6 00	
" 2 hives @ $1.50	3 00	
		$9 00
CR.		
Fall of 1876—By 3 colonies, @ $6.00	$18 00	
" 120 lbs. comb honey @ 20c.	24 00	
		42 00
		9 00
Profits		$33 00

[Packed in chaff on summer stands; all wintered well.]

DR.		
Spring, 1877—To 3 colonies, @ $6.00	$18 00	
" 7 hives, @ $1.50	10 50	
		$28 50
CR.		
Fall of 1877—By 10 colonies	$60 00	
" 175 lbs. comb honey @ 15c.	26 25	
		86 25
		28 50
Profits		$57 75

[Packed in chaff on summer stands; all wintered well.]

Spring, 1878—To 10 colonies @ $6.00	$60 00	
" 14 hives @ $1.50	21 00	
		$81 00
CR.		
Fall of 1878—By 24 colonies	$144 00	
" 600 lbs. comb honey @ 12c.	72 00	
		$216 00
		81 00
Profits		$135 00

I packed in chaff on the summer stands, and did not lose a colony until

after April 6th, 1879; then in 3 weeks I lost 16 colonies on account of old age of the bees, as the spring was very late. I used the same hives and most of the combs, after cleaning thoroughly. I built up again to 24 colonies, which are in good condition at the present time. I also obtained 400 lbs. of comb honey, which at 15c. per lb., amounted to $60, and 200 lbs. of extracted honey, which I fed back in September. I purchased 1,000 feet lumber for packing, etc., at $10.00, leaving a profit of $50.00 for 1879.

I use the movable comb hive, and increase by dividing. I began on a small scale, but am going in on a larger one. The BEE JOURNAL improves each year.

Carlton, Mich., Jan. 10, 1880.

For the American Bee Journal.

Ladies and the National Convention.

MRS. D. C. SPENCER.

I sincerly regret that any of our lady bee-keepers felt disposed to complain of the courtesies extended to them at the National Convention.

I was satisfied that all of the gentlemen (especially our President) seemed disposed to do all in their power, to make the occasion one of pleasure and profit to all. I for one, can say that I was much pleased with the proceedings of the Convention, and consider myself much benefitted by the knowledge there obtained, and hope that I may have the pleasure of attending many more such.

Augusta, Wis.

For the American Bee Journal.

The Season, Honey Plants, &c.

J. E. BREED.

The last season was not half an average for honey; but increase was good. We had too many frosts and too much dry wether. The bees are ⅔ in chaff houses (dog houses, some call them), out of doors and all the weak and late swarms are nicely fixed in the cellar, in a room all by themselves, and are quiet and doing well.

Last fall, the season was a very poor one, and though I commenced very early, getting fixed for winter, I had so much to do that the early cold weather caught me behind somewhat.

I have tried many bee plants in this locality. Cleome and motherwort are seldom visited; on the sunflower I never saw a bee, before this year. Catnip and melilot are good enough. Alsike and white clover are my stand-by. Raspberry is fair. I never saw a honey bee on blackberries, though there are a plenty here. Golden rod this year was good. The asters are always good. Basswood is good, most years. Mustard is always famous. I never believed that bees worked on tamarack until I saw them, this year. They do and no mistake. Willow herb is plenty and good for honey, as are the maples.

To-day the out-door bees are having a splendid fly, the first for a long time, and I am *home* again. Their music beats all the organs ever made. They enjoy the fly, and I do so, too, to hear and see them. They all seem to be doing well. I do not disturb them after putting them up for winter, and I never disturb the brood-nest unless something is wrong. I know that chaff houses (my kind), with 1 foot of chaff all over the hive, is the sort for this latitude.

Foundation is a grand thing; in fact, indispensable, if we would succeed. Mrs. Dunham makes the right kind; it does not sag or break down, and they work it out days ahead of other kinds.

Waupaca Co., Wis., Jan. 4, 1880.

For the American Bee Journal.

My Experience with a Native Colony.

R. L. AYLOR.

My bees had a good fly on Jan. 3d and 4th. One colony of blacks swarmed out on the 3d. As they were so vicious I put them up to starve. They killed 4 or 5 Italian queens that I introduced, and when I gave them Italian brood to rear one from, they reared one, but when she was just ready to come out of the cell, they pulled her out and killed her. They served 4 or 5 ripe Italian queen-cells in the same manner. I finely gave them a frame of native brood, and they reared a queen. When returning from her bridal trip, she went into an Italian colony standing about 3 feet from her own hive and killed its nice Italian queen and was accepted by that colony, so instead of one native colony I had two of them. Being disgusted with them, I determined to let them die out. The drones and queen were small and I could not find the latter, so I took the frames about 50 steps away and shook off the bees, but they all went back to the hive. This I repeated several times but it was of no avail, and when I put up my bees for winter, I left them to their fate; on Jan. 3d they came out and started for parts unknown, to my entire satisfaction. I could not do without the BEE JOURNAL, and wish it much success.

Waterloo, Ky., Jan. 5, 1880.

For the American Bee Journal.

A Cellar Above Ground.

JOHN ROOKER:

The old reliable AMERIAN BEE JOURNAL is the best bee paper in the world, endorsed as it is by such eminent bee masters as the Rev. L. L. Langstroth, Capt. J. E. Hetherington, Prof. A. J. Cook, G. M. Doolittle, Rev. A. Salisbury, James Heddon, Ch. Dadant, Rev. E. L. Briggs and a host of others —its articles are the very *cream* of apicultural literature.

It seems to me very surprising that so many are yet without a thorough knowledge of successful wintering, when Prof. Cook's prize essay contains it in a nut shell (comparatively speaking). The greatest obstacle, in my opinion, to successful wintering being out-door "hobbies."

I cannot easily believe that cold which freezes the earth 2 feet deep can be kept out of a hive of bees with 3 or 4 inches of chaff or other material; the entrance left open for air, admits also cold enough to destroy the bees.

Some 12 years ago the late Mr. S. Wagner, founder of the AMERICAN BEE JOURNAL, said that bees properly protected in winter became no older. My observations confirm me in the belief that he was right, and further that they do not accumulate any feces when everything is right.

The Italian bee stops breeding early in the fall; this is very necessary for wintering in our cold climate, for just as sure as they breed in the cellar they will have the cholera, and if not given a fly will die. Not many colonies will attempt to rear brood in the repository; any that do, should be put out for a fly. When there is no fall gathering, nearly all the bees are quite likely to be old when housed for winter; in such a case they will be weak in the spring and there will be some "spring dwindling." The remedy for this (and it should always be applied promptly) is to take 2 measures of best light brown sugar to one of water, and feed them from the middle of Sept. until Oct. 1st to 10th, so that all the colonies will have plenty of young bees and 25 or 30 lbs. of honey or feed. Storing this feed and rearing those young bees will wear out all the old bees, so that the colony will have none but young bees to begin winter with. Such colonies always have wintered for me without any loss, and are in the next spring much ahead of those not fed.

To do this feeding right 25 or 30 lbs. of sugar must be used. And just in proportion as this is neglected will the profits of the apiary be diminished for the next year. Its neglect may cause the loss of the apiary, or the greater part of it. Nothing has ever paid me better than fall feeding. Before commencing to feed, the colony should be confined to from 5 or 7 combs, according to its size; the entrance should be contracted, to prevent robbing, and a quart or ½ gallon can of syrup with thin muslin tied over its mouth, should be placed bottom upwards, on 2 sticks, ¼ of an inch thick, placed on the frames at sundown every evening. Perhaps a quart is enough to feed every 24 hours, if brood-rearing is desirable. There is not much danger of a colony breeding too late here for the young bees not to get a fly before being housed, which is very necessary for their health. A surplus chamber should be used to cover the feed can; or a honey-board having a hole, to let the can through, does just as well. After the feeding is done, the cover should be let down on the brood-chamber.

When the winter has fairly set in, just before it begins to freeze, is the proper time to place the bees in the house. Remove them without jarring into the the cellar; prop up the rear end of the cover ¼ of an inch, leaving the rear end 1 or 2 inches higher; then tier up as high as can be conveniently done. See that the temperature is about 40 to 50°. Keep the cellar as dark as a dungeon; remembering it is their nature to be in darkness; ventilate by flues altogether. Any one that thinks all this too much labor to perform promptly should let bees alone, because this is only just a fair beginning. It takes work to make bees pay, as well as information and practical knowledge.

After 15 years' experience in wintering bees, I do not see why a cellar made on the top of the ground would not be the best for wintering bees. Build a boulder-wall on the top of the ground, around as much room as desired; say 15 x30 feet; with the walls 7 feet high. Then fill up all around to the top of the walls, letting the bank slope back, like a hill-side; leaving a door-way at one end. A house for shop-purposes might be placed above the cellar. The joists should not be less than 15 inches wide and over the cellar it should be ceiled above and below the joists, so as to admit of filling in with sawdust. The cellar might be divided into two rooms with a door in the partition so as to winter the bees in the rear room, entered through the front room. This would give an even temperature and better facilities for warming the air, before it comes in contact with the bees. This

cellar would have all the merits of a first-class, dry, under-ground cellar, yet possess the advantages of getting into without the laborious job of climbing stairs, and would be much easier to ventilate.

No doubt an apiary can be bred "in and in," so that it is much harder to winter. A queen should be used that is known to be of no "kin" to any in the apiary and she should have been tested one year if we are aiming to improve our bees. No indiscriminate breeding has been done in my apiary for years. Before breeding from a queen, she must be known to breed the light-colored, amiable, three-banded Italian workers; she must also be of medium size; beautifully tapering back from the wings, and active; she must be prolific and handsome. Her workers must be the very best honey-gatherers. They must not be apt to sting, and her colony must have wintered well nor would I breed from a queen that was prone to swarm.

Many are crazy about double-wall hives. There is just as much sense in the double-walled idea to me, as the chaff and quilts. Such are nothing but an unnecessary expense. Just as well ask me to put on my overcoat in August to keep cool, as to ask me to put my bees in a double-walled hive. When bees are storing honey there is always an excess of heat, instead of a deficiency. I tried a double-walled hive for years and every time it got strong enough to gather honey, it would swarm. There may be a time in early spring when it may be of some benefit, but there is so much of the time it would be a cubersome nuisance, that this advantage is largely over balanced.

Strawtown, Ind.

For the American Bee Journal.

Honey Season of 1879, and Wintering.

JOHN F. EGGLESTON.

Perhaps it would be interesting to some of your readers to know how the little "honey gatherers" have prospered in this part of the country, for the past year. The loss in wintering was generally heavy, but we have no reason to complain, farther than of a short crop of honey. In the fall of 1878 I wintered 68 colonies; 31 in the house and 32 on the summer stands; 15 of those wintered outside were enclosed in large boxes and packed in chaff; two having glass in front of the boxes, but I could discover no advantage arising from the glass. The balance were prepared by removing a part of the brood-combs and inserting double paper or chaff partitions on each side of the brood-nest. The paper partitions were made by cutting heavy sheeting paper into sheets just large enough to fit the hive closely, and tacking one sheet on each side of an ordinary brood-frame. I placed a thin muslin cloth on the top and filled the upper story ½ or ⅔ full of chaff, and allowed them to remain unmolested till spring, with the following results: They wintered without the loss of a single colony, or the marks of disease in a single hive.

Those wintered in the house were put in on the 18th of Nov. and taken out the 9th of April; they marked the snow much less than they ever did when they were taken out in the winter, but last winter there was no time after they were put in, that the weather was suitable for them to fly, till the 1st of March; and at that time they seemed so comfortable and quiet that I allowed them to remain till spring. I have generally put them out once in the winter for a cleansing flight.

My honey crop for the past season was a failure; I reduced my stock by sales to 58 colonies to open the season with; I increased to 79, and obtained 1,453 lbs. of honey; 25 lbs. of extracted, the balance was comb honey in 5x6 sections, which was sold for 15c. per pound at wholesale (would bring 20c. now). Many bees in this and Crawford county are in poor condition to winter; the prospect is now for as heavy a loss the coming winter as we had last.

Garland, Pa., Dec. 21, 1879.

For the American Bee Journal.

Transferring Bees.

JOHN BARFOOT.

In the September number of the AMERICAN BEE JOURNAL I noticed a method for transferring bees by L. E. Bemis, as it is usually done; in the Oct. number a method by J. D. Enos, also giving his method of fastening combs in frames by using bent wires, which is very good; and in the November number an improvement, in the form of wires as used by Mr. Enos, for holding combs in frames by Dr. J. W. Greene.

I have been using wire fastenings of my own make for many years. I simply used a wire ⅝ inch longer than it was from the center of the upper bar of the frame to the center of the lower bar, and bent it at each end 5-16 of an inch at right angles with the frame, and drove one end into the upper and the other end into the lower bar, using about 3 pairs for each frame. However,

I think the method of Mr. Enos' is better than mine, and I think Dr. Greene's method is a still further improvement; though, for all practical purposes, mine answered very well.

My improvement in transferring is simply this: I proceed just as all others do, quiet the bees by smoking them, then carry the hive to be transferred to some suitable place, and if out of doors, say two rods off, turn it bottom side up, and then place a box over the hive to be transferred, not being particular whether it is the same size or not; a little larger would be better than smaller, and 10 inches is deep enough. The side of the hive next to the operator, we call the front side of the hive, now place the back edge of the box on the back edge of the hive, and, with the left hand, raise the front of the box as high as may be necessary to see all that is going on in the hive. Now commence drumming on the sides of the hive with a stick or small hammer, and you can see the bees go up into the box until you are satisfied they have all ascended. In most cases, the queen and the drones are the last to go up. It usually occupies 15 or 20 minutes, then put the box and bees in some cool place on a sieve, or on a board made specially for that purpose, by making a large hole or mortise in it, covered with wire cloth, so that they can get air. It is not necessary for me to tell how to transfer the combs, as that has been done many times during the past year.

I claim that this method of driving bees out of a hive in transferring is a great improvement over the old method of having a box made precisely the same size of the hive, and placing it on the hive, and then tying a cloth around both to prevent the bees from coming out, and then drumming for some time, not knowing in the mean time whether they have gone up or not. Any person trying this method I believe will never try the old method again.

This method is not original with me, I have never seen it in print, but it is a decided improvement over the old method, which I have seen in print many a time. One great advantage is, the drumming box will suit any hive, while by the old method you were required to have a box the size of each hive you had to transfer, or in other words a box for every style of hive.

Chariton, Iowa.

[This is the precise plan used by English apiarists in driving bees for public exhibitions, and one that we shall do well to "borrow" from them for our public exhibitions at Fairs, &c.—Ed.]

For the American Bee Journal.

The Banana as a Honey Plant.

A. A. B.

In a previous article descriptive of the honey resources of this section of Florida, by some fortuity, I neglected to include in the list of honey-producing plants the banana. Possibly it has been described before. I have never seen a description, however, hence give one now.

Recently noticing bees working upon the blossoms I concluded to examine them. To my surprise I found that each blossom had a sack on its under side which contained several drops of nectar of the consistency and sweetness of thin syrup. This sack gradually opens allowing the contents to escape, unless appropriated by some insect. The blossom hangs in a position that rain cannot enter to dilute or wash out the nectar. Procuring a teaspoon I emptied into it the contents of a dozen blossoms which filled it full. Each stalk, on good land, will produce a head having a hundred hands or divisions of blossoms, and each hand averages six blossoms, giving 600 blossoms to the stalk. Estimating 100 teaspoonsful to the pint (88 of the one used filled a pint measure) we have 50 spoonsful or half a pint to the stalk. Planted in checks 8x8 feet, there will be 680 plants per acre, yielding according to the above estimate, 42½ gallons of nectar. But usually more than one stalk in a hill blossoms and matures fruit annually. The blossoms used were below those that produce fruit, which latter I am told are much richer in honey.

The first blossoms which open mature fruit. These vary in number from 25 to 100 according to quality of land, cultivation, &c. They sell here at from 1½ to 2c. per finger or pod. Estimating the yield of nectar at 42 gallons, and the fruit at 25 fingers per bunch and the bunches at 25c. each—which you see is a low estimate for both—the result will be a barrel of nectar and $170.00 worth of fruit per acre. How does this showing compare with other cultivated plants as combined honey and money crop?

I send you some blossoms with nectar enclosed. They are not much over half the usual size, having been taken from a small stalk on poor land and rather late in the season for the best development and secretion of honey. Very little attention is given to banana culture, being overshadowed in importance by the culture of the Orange, which has been known to give returns of over

a thousand dollars per acre. Such results, however, do not occur often, and are almost as frequent as a yield of 300 lbs. of honey from one colony of bees.

I feel safe in making the statement that good apiarists can find locations in this county where they can secure a support from apiculture and at the same time engage in semi-tropical fruit culture—the leading fruits being oranges, lemons, pineapples and bananas—to the extent of having at the end of 5 years an independent income from them alone.

Clifton Springs, Florida.

For the American Bee Journal.

My Experience in Wintering.

D. RIDER.

Much against my judgment and will, my bees were left out of their winter-quarters until late in December, 1878. The mild winter of 1877 had its influence upon the persons who had that duty to perform and as I had made them co-partners in half the apiary, they thought it best to leave the bees on their summer stands as long as possible, and it was not until December 13, 1878, that the extreme cold weather and a violent snow storm, persuaded them to comply with my request. Ten colonies were then put into the bee-house; as snow fell very fast and nearly blinded the men, the work was abandoned, and snow, for 12 inches deep, covered the remaining colonies. In my anxiety to save the bees and keep them from freezing, with a large grain shovel I packed the snow around and on the top of the hives, leaving the front and entrances open.

On the 17th, the thermometer standing at 8° above zero, I dug the well-packed snow away from 48 hives and put them into the bee-cellar. On 23d and 25th of December I finished storing them into winter quarters, all but 2 large Simons' patent hives that had been packed in 6 inches of dry maple-sugar tree leaves, and left them on their summer stands packed in snow with front open, facing the east. In all 169 hives containing in appearance living bees. The thermometer having fallen to 8° below zero, during a number of nights, I began to fear that many colonies were ruined entirely.

In the spring of 1879, the weather becoming warm and feeling anxious to give the bees a fly, we took out of the cellar on the 4th of March, 120 colonies and put them on their summer stands and they had a good fly; only 3 colonies exhibiting any signs of disease. The weather continuing warm, on the 7th we carried out the balance; the bees flying freely and cleaning their hives. On the 9th some of the bees commenced robbing, convincing me that some had lost their queens and that others were short of stores, hence I resorted to my old plan of feeding to break it up, which it did, very quickly. I fed in an ordinary feed trough, placed several rods in the rear of the hives. On the 11th the bees were flying strong and I fed them all the unbolted rye flour that they would carry home, and they took it freely.

The City of Fairfield having passed an ordinance against keeping bees in the city, I was compelled to remove a large apiary outside of its limits. This circumstance influenced some people to object to the location of my apiary, as it was only about 100 feet from the public road, where it had stood for 32 years. Hearing this, I resolved to change to a new location, although much against my will, believing that I had a great risk to run, should the weather again become cold. I took the first cold day to remove them to the new location. On March 14th, the thermometer fell to 7° above zero, with a strong cold wind; the bees were quiet. I moved 75 colonies 15 rods from the public road, to a cherry orchard and on March 17th, I removed the remainder—the thermometer standing at 13° above zero; it was cold but calm, and the bees were quiet. I feared for the safety of the bees, knowing that many of the honey-boards were rather shaky, while some of the caps did not fit very closely on the hives; besides, every colony had been more or less disturbed, which would cause them to break from the cluster and scatter over the combs, where they would be liable to chill and probably freeze to death, if the cold continued long.

March 20th was a bright, warm day, and the bees were out flying and seeking for their old quarters; bushels of them settling and clustering on the ground near their former abode, but finding no hives, some of them rose and went to their new home, but in the afternoon the wind arose and shifted to the northwest, which soon chilled the bees yet clustering on the ground. I covered them with carpets, blankets, coverlids, woolen cloths and hay, but all this did not save them from freezing to death. The 25th was also warm; some colonies were busily cleaning out the dead brood which had perished during the past cold spell. From some colonies none are flying, and they are very likely dead; yet the number is less than I expected.

February 11th, I fed both honey and rye flour. April 18, 19, bees were very busy and I fed them 27 4-lb. boxes of buckwheat honey and all the rye flour and corn meal they would take, there being no bloom except the red cedar, on which the bees were busy.

April 22nd, for the first time the bees gathered pollen and honey from the gooseberry. On the 24th they were at work strongly on the cherry bloom. On the 26th they commenced on the plum and pear bloom.

Bees are now doing well, but I lost heavily since early in November, 1878, at which time I had 175 colonies in good condition. The delay in housing them until late in December, caused the death of 18 colonies, reducing the number to 157; then the change of location in the spring of 1879, after they had been placed on their summer stands for about 8 days, which occasioned an additional loss of 21 colonies, leaving only 136 alive, and some of those in rather poor condition to pass through the season.

Fairfield, Iowa.

From the Bee-Keepers' Guide.

The Adulteration of Food.

REV. J. G. TETER.

We are living in an age of adulteration. The chief cause that has led to this mischievous work is the desire for gain. Many people have become over anxious to amass a fortune or lay up a competency. That thirst for worldly gain has been the means of laying a strong temptation in the way, and has led many a man to violate what he *knew* to be the principles of right and justice. Adulteration is not confined to honey alone, but is found among all the articles of food we eat (or nearly so), and much of the drinks now in use are also adulterated; and many of the medicines that are carried into the sick room have been tampered with. It is difficult to find wines or liquors to-day that have not been mixed with foreign ingredients.

About 19 years ago, I was preaching in a vicinity where there were a number of large distilleries that were kept in constant operation. At one of these distilleries they used so much poison that the swill that ran from the building killed the hogs that drank it. It was then turned into the river and it killed all the fish for 3 miles down the stream. The men that drank this liquor acted like raving maniacs. They were in every sense of the word *poisoned*. In a very short time many of these men died the worst of deaths with *delirium tremens*. Undoubtedly a large part of the drinks sold at the saloons to-day are *fearfully adulterated*.

We pass from the saloons to the groceries, and what articles are not adulterated? Some of the green teas now sold have once been steeped and the nutriment has been drawn from them. The leaves have been thrown into a can and colored with a cheap kind of coloring, but that coloring is poison. And when drank, it affects the nerves and keeps the person awake when he should be asleep. There is also a great amount of adulteration in the spices and coffees offered for sale. If not as detrimental as the adulteration of liquors and teas, yet they are mixed with articles of a cheaper grade.

Honey is used as an article of food and also for its medicinal properties. In years gone by it has brought a good price in the markets, and often the demand has been greater than the supply.

Since extracted honey has been placed upon our markets it has been an easy thing to compound sugar with honey, and when the compound was sold for honey the profits were very great. But the adulteration we meet with to-day is usually a compound of honey, glucose and the oil of anise. The receipe usually used is 10 lbs. of glucose, 2 lbs. of honey, and a drop of the oil of anise. The glucose usually used is not that made from the grape; but is made from starch by the action of acids, heat and lime. It has been demonstrated that it contains a large amount of poison. It is unfit for food, and if men buy it for honey with the intention of using it for its medicinal properties, the poison will only aggravate the disease instead of assisting nature to throw it off. Where this compound is thrown upon the markets under the name of honey or "*choice honey*" as it is usually labeled, it checks the sale of all articles under the head of honey, while at the same time it drags the sale of the pure article of honey down to a level with this cheap poisonous stuff. It is easy to see how this is a damage to all the bee-keepers of the land, and also a curse to our citizens in general.

The first step towards eradicating this evil is to point out some method by which we may detect adulteration in honey. It is a fact well understood that pure honey will granulate if exposed to a cool atmosphere, and this is a common test the world over.

A cheap and easy way to test the presence of the poorer grades of glucose in honey, is to put some of it into a cup of tea made strong. If it is heavily

adulterated with this poisonous compound, found in glucose, it will turn black, almost like ink. Another test is to put pure alcohol and this poisonous compound together. Pure honey and pure alcohol will unite, but pure alcohol and this poisonous compound will separate like oil and water. The above tests are given in Mr. Quinby's new Bee-Keeping. But to my mind the proper way to test this compound, is to take it to a first-class chemist, and have it fully analyzed. Have him give a table showing its component parts. We have undoubtedly a considerable of this adulterated compound placed upon the markets of this State.

Some men have told me that they bought their honey in the comb and in that way avoided all adulteration. But I was told some time since by a man of truth and veracity, that he knew of a man who had a number of bees, and he bought a large lot of dark sugar; he melted it and brought to the consistency of honey. He fed it to the bees. The bees had considerable of empty comb in the boxes. They soon filled the empty combs and capped them over. He sold it for honey; but it was not honey. It did not differ in nature in the comb from what it was in the barrel. In the same way the compound in the jars might be transferred to the combs, but the transfer would not change its nature. Then we cannot avoid adulteration by dealing strictly in comb honey, while the extracted, if pure, is preferable to the honey in the comb, and can be produced at a much less cost. I need not state any further arguments to prove it to be a crime to sell this poisonous compound under the label of "choice honey." I think all will admit that if it is a crime then we need legislation on the subject. England has largely corrected the adulteration of food in the past three years. Why cannot the United States do the same? I would recommend to this Bee-Keepers' Union of the Northwest and all similar organizations, to petition Congress for a very stringent law against the sale of poisonous compounds under the label of honey or "choice honey." I would also include in the petition all articles of food, and make it the duty of all who compound to state on the box, bottle, vessel or paper, just what was inside. For the people have a right to know just what they are buying. I would also include all kinds of liquors, for if men will drink I sincerely wish all the drinks to be just as pure as they can be made. Then at least some of the curses of intemperance would be swept away.

In our efforts to secure legislation on the sales of adulterated honey last winter, in this State, we did not get all we would like to have had, but we have made a beginning. Our law, if properly enforced will do much to check unprincipled men from throwing their compounds on the markets as honey. It would help us very much if our next legislature would make it the duty of our State chemist to analyse a few specimens of this compound sold as honey, and do his work in the interests of the State. It would assist in convicting criminals. While there is work for Congress and our State Legislature and State Chemist to do in correcting this wrong, there is also much more to be done by the bee fraternity.

First, bee men should never place anything upon the markets but a pure article of honey. To be sure of this let every man, if he feeds his bees, feed nothing but the pure honey. Every bee man can build up a reputation that will secure him sales for all his honey within easy distance of home. This will require time and fair dealing.

I have also thought it would be a good thing if one or two merchants in our cities, and also in our towns, could be induced to unite with this "Union" and keep a pure article of honey constantly on hand. It would certainly pay them well, while it would be a blessing to the public and at the same time advance the interests of bee-keeping.

St. Paul, Minn,, Nov. 27, 1879.

For the American Bee Journal.

Wintering on Summer Stands.

W. N. CRAVEN.

I face all the hives to the east, with the bottom of the hive 2 inches above the ground. I removed all the frames but those covered with bees, and put division boards each side. These boards were ¼ inch short, and had woolen cloth tacked on the ends, so that they would slip down easily, without disturbing the bees. These boards make the brood-nest air tight, and leave a dead-air space each side of it. The frames are covered with 2 or 3 thicknesses of woolen cloth and on these I placed a sheet of wrapping-paper having holes in it, to permit the dampness to pass off. I then put boards on the sides and back of the hives, and drive stakes into the ground to hold them up; then I fill the spaces between the boards and the hives with fine hay or anything of that sort. In the spring I move the

division-boards a little, and spread the frames so as to admit an empty comb in the center of the brood-nest; this the queen will at once occupy with eggs. This should be repeated every few days until it is necessary to remove the division boards entirely.

This arrangement keeps the bees in a condition to be able to reach their honey without chilling in winter and promotes early spring breeding, so that they will be strong when the first bloom appears.

I prepared 48 colonies in this way in the fall of 1878, and they gave me 220 gallons of surplus honey in 4 weeks. Some of my neighbors had 240 colonies wintered unprotected, and they only obtained 130 gallons.

I prevent swarms from going to the woods in this manner: If they settle before leaving, it will be difficult to hive them, though it can be done. If they still intend to leave, they will crawl out in front of the entrance, and hold their wings so close to their bodies, that they will become shiny. This I have found to be a sure indication, and so I watch them, and just as soon as they commence to leave, I close the entrance until the queen and what bees are out leave for the woods. When they are out of sight I open the entrance, and if the others come out, they either settle or go back to the hive. If the former, I hive them giving them a queen, and some brood from other hives. This I have often done with success.

Poplar Bluff, Mo., Dec. 27, 1879.

For the American Bee Journal.

Hives made of Wood and Plaster.

ALEXANDER R. FINDLAY.

I desire to bring before the readers of the AMERICAN BEE JOURNAL two inventions of Mr. Patterson, of Struan. I am so satisfied as to the superior ingenuity of our American friends that I do this in the assurance that they will improve on them. They go so far as to solve two very difficult practical problems in bee-keeping.

The following descriptions were published in the *Journal of Horticulture:*

Mr. Patterson, well-known in Perthshire as a skillful apiarist, has for several years spent most of his spare time in devising means for overcoming some of the practical difficulties connected with bee-keeping. Of late his attention has been especially directed to two points—1st, The material of which his inner shell of the hive should be constructed; and 2nd, The best form of frame, keeping especially in view the increase of his stock, and this with a view to the subsequent increase at the proper season of available super honey.

1. As to the first, Mr. Patterson found that neither of the old materials in general use—viz., straw and wood under any arrangement could be managed so as to exclude damp, and mould in consequence, especially in long-protracted and wet winters. This the experience of nearly every bee-master amply confirms. It then occurred to him that, if any moisture-absorbing material could be employed instead, the end would be secured. His attention was called to plaster of Paris, and after a series of experiments, &c., by means of tin moulds, made an oblong hive entirely of this material, formed round it a protecting wall of brick, placed in position the ordinary bar-frames, and then introduced his colony of bees. The covering was temporarily made of a miscellaneous collection of old cloths and flannels, protected overhead by a waterproof tarpaulin. The bees took to their new abode at once, and their progress was such as to excite the admiration of all who were taken to inspect them. The honey harvest came, and it far exceeded that of any other hive in his apiary. But winter drew on, and day by day, the result of each visit was increasingly satisfactory. He found that the plaster of Paris walls which in summer were not only perfectly dry but also comparatively cool, were in winter comparatively warm and as dry as a bone. When spring arrived, he found the whole colony in excellent condition, and not a single inch of mouldy comb to be found. On examining the other hives he found them as before; damp and mould more or less prevailed. Another season passed over with even better results. Winter came again, and personal inspection including thermometrical observation, was kept up, and he found no occasion to alter his original opinion. The hives had been put to even more serious tests than he had designed, in the upland region where he resides. On two several occasions a terrific storm swept across the district, and during the night his temporary overhead protection was swept away, and to his dismay he found his little favorites next morning in a most pitiable condition—drenched with rain and paralysed with cold. They were soon put to rights as far as possible. The worst was feared; but what was Mr. Patterson's delight to find that in the course of two days, such was the moisture-absorbing powers of the plaster, that no trace of the mishap

could be seen. Another winter has passed in safety, and the plaster hive is still the best. Mr. Patterson has since been led to employ "Keene's cement" instead of the plaster. This is made by soaking plaster of Paris in alum water, then reburning and grinding it.

But for general use it is quite obvious that there are serious objections to the above arrangements. The shell of the hive is brittle, and no liberty can be taken in removing it from place to place. Besides, as an article of sale it is for the same reason inadmissible. This difficulty has, however, been quite got over by the practical suggestion of the clergyman at Struan, who is nearly as enthusiastic an apiarist as Mr. Patterson himself, to the effect that the sides of the hive be formed by a combination of wood and plaster. After careful experiment it was found that this could be best accomplished by outer frames of wood, such as painters have their canvas stretched on. Permission was obtained from a Glasgow patentee to take advantage of his invention, and a kind of sackcloth called scrim was stretched on the frames. Each side of the hive thus formed was laid on a flat stone, and the plaster, reduced by water to the consistency of a very rich cream, was poured on, and when dry, which speedily happens, the frame is formed. These, when carefully packed, can be sent anywhere.

The mode of uniting the four sides may be varied. The first plan tried was very effective. Eight sheet-iron corners, such as are used for strengthening the biscuit boxes, issued by the manufacturers, or may be seen clasping the two sides of the cheaper class of trunks, were attached by screws, and the box was complete, ready for the reception of the frames. Another change in the form of the hive, however, has been made, so as to suit the new-shaped frames which are referred to at the outset under head No. 2, of which I shall now speak.

2. It is well-known that from an early period it has been the aim of skilled apiarists to adapt the shape of the hive as nearly as possible to the form of the comb, especially at the stage of its formation when the clustering bees spread over the greater part of its surface for breeding purposes. Hence we have square, hexagonal, octagonal, and circular-shaped hives put forth by their several advocates as being each the best in the circumstances. The square, though perhaps the handiest where frames are used, is furthest in shape from the requisite referred to. All who have used it must have been very frequently annoyed at the results flowing from the "cold corners," as "a Renfrewshire bee-keeper" aptly calls them, and the absence of which in his favorite Stewarton, is an occasional source of a very natural congratulation, to which the hexagonal and the circular are equally entitled. But there are "cold corners" in every comb of far more serious consequence in every hive with a flat top, and two in every dome-shaped one. The two lower ones are worse than useless, and the upper two are only a shade better. In the former honey is seldom placed, and brood never. The bees, like Nature, abhor a vacuum. Hence the space is filled with useless comb, which, to the apiarist looking for profit, means waste. In the upper two, honey is generally found; but if so, it is as often superfluous. Mr. Patterson has endeavored to remedy this, and the practical result, is as follows:

The first experiment was in the direction of the oval, but the wood persistently refused to be so bent under ordinary management. Steamed, twisted, or tied till dry, it invariably returned to the circle or an approach to it. A mould was tried with a larger measure of success, and a very fair approximation to his idea was obtained. The completed frame resembled very much the section of an egg with the end cut off, as we see it daily at the breakfast table. But then fresh difficulties arose—the frames would not all come with exactly the same outline; this in a hive would be simply intolerable. Again, the fitting-up of the box internally was, though rendered perfectly practicable by the introduction of the plaster, yet difficult except to an adept, and somewhat expensive. It was at once abandoned, and a new form, which all the time had been suggesting itself as it were, was attempted. Why not adopt the octagonal? The Stewarton hive has rendered it familiar, in so far as the shape of the hive itself was concerned. He set to work, and out came the very thing he wanted. It looked exactly as if he had laid down one of his Stewarton boxes on the bench, as the cook would do a ham, and then taken a slice an inch thick off it. He was so pleased with its appearance and the possible advantages which faith and imagination clustered around it, that he at once by means of a block of wood formed a mould which held it fast while the nails were applied, and insured that every frame was firm and all as exactly alike as possible. To carry out his idea a square wooden box was formed; a slight narrow ridge run along the inside or opposite sides to each other, and a tin

suspender of the simpliest form attached to each side of the frame, and the original idea had fairly taken shape. Some things still remained to be done. From the floor to the side of the box, thin partitions of wood were run along from end to end, placed so as to come up to within a quarter of an inch of the one side of the octagon, on either side. This may seem to include the idea of lost space, but the value of this arrangement in another point of view has unexpectedly appeared, and will by-and-by be also explained.

The hive was thus so far completed that the introduction of a colony to test it was all that was required. Struan, I may mention here, is nearly 600 feet above the level of the sea, and but for the magnificent supply of heath on its hillsides would be the most unlikely and unsuitable place for an apiary in Britain. The winter had been protracted beyond all previous experience. The snow was lying all around, and in the deep corries showed that it would requiré a July sun to dismiss it. In the end of April, on the occurrence of a day of sunshine, with the temperature tolerably favorable and the atmosphere perfectly dry, he broke up one of his hives, and transferred the combs and all the bees (hybrid Ligurians) to the new hive. The frames were placed parallel to the entrance and close to it. He backed them up with one of his newly invented bar-frame feeders, which served at the same time as a dummy. The frames he covered over with flannel and strips of carpeting to an extent necessary to keep up the proper temperature inside, flung a waterproof tarpaulin over all, and felt thankful that the work was thus far accomplished, and hopeful for the future.

Next day the hive was examined. The bees, as they always do when properly handled, had taken their somewhat untimely and unceremonious removal in good part. They were busy, some in fixing the combs to the upper portion of the frames, others in removing the debris necessarily caused by the transferrence, while others were busily engaged in removing syrup from the long narrow ridge of the bee-feeder.

Day by day the hive has been examined and the progress has been remarkable. When it started on its new existence the colony might in every sense be regarded as the weakest in the apiary—the one that, all things considered, had the worst chance. It is now on a par with the strongest, and it fully and fairly promised by the end of June to be far ahead of the whole. The frames, which were being gradually added one by one, in no case extended quite to the bottom, but I never saw such a mass of brood, the bees having reserved only from 1 or 2 inches all round for honey, all the rest being appropriated to breeding purposes. On the face of one of the combs I was greatly struck to see that not even a single cell was reserved for honey or pollen, inside of the inch space just referred to.

Mr. Patterson is so satisfied with his success, and so confident as to results, that he has begun to adapt his whole apiary to the new system, if we may be allowed so to call it. He has introduced many improvements which were suggested as he went on with his work—adapting his plaster hive to the change of form, working out the idea of a combination hive, overcoming minor difficulties as they emerged. To enumerate or explain these would only lead to confusion if attempted now.

As before mentioned the bees at once took to their new abode, and commenced work with a will. As the month wore on, the appearance of brood was most encouraging. The shape of the frames and that of the clustering bees coinciding so exactly greatly favored the hatching process, and before July had well begun, several frames had to be added. By the end of July the hive was quite a sight, and the merry hum of the bees as they went out to their work in crowds, gave full proof of the health and prosperity that reigned within. It was soon necessary to form an artificial swarm, which in this wretched season and at an altitude of 600 feet above the level of the sea, was a thing to be spoken of. In the course of a month, the swarm became fully equal to the parent colony, and, if there had been a longer season, I am not sure but that it would have outstripped it. For this, too, there was a reason. The original size of the octagon was 13 inches inside measurement; but Mr. Patterson thought that, safely and with advantage, it might be extended to 14 inches. This gave an immense breeding and storing surface, every frame containing upwards of 6,000 cells, a larger surface than that contained in any frame which we have ever seen. The result has so far justified this extension as indicated above, for breeding on a large scale has unquestionably gone on, the bees with their queen evidently chiming in with the idea.

An experienced bee-keeper at the Perth Show urged that with such a mass of comb, brood, and honey in each frame, removal to the heather would be impossible owing to the risk of a break-

down, but he overlooked the additional support which the oblique upper and under sides of the octagon afford, thus counteracting the supposed danger.

In all the apiaries of the district, box honey has been a failure. I took a few pounds from a rectangular plaster hive which was not allowed to swarm, and whose population consequently could be counted by myriads. Mr. Patterson, however, who was nearer the heather, took from his new hive 16 lbs. in boxes and 5 lbs. from the combs, leaving a large supply for winter use. The other 12 hives were a complete blank. This is all that can be said for the present. But he anticipates another advantage. The bees are clustering lower down on the comb than he ever saw them, and he fully expects from the arrangement of the stores all round the swarm that there will be no need for the bees removing from comb to comb all the winther through, thus saving serious risk, as every bee-master knows to his cost, the scarcity of supply necessitating the removal, and paralysis from cold frequently occurring in consequence.

Blair Athol, Scotland, Dec. 10, 1879.

For the American Bee Journal.

The Wintering of Bees, Etc.

EZRA HEALD.

Bees did very well here early in the season, and I think mine also did very well in the latter part of it. In the spring of 1879 I had 10 colonies; increased mostly by natural swarming to 25. They are in good condition for winter, with 2 or 3 exceptions. I cannot now give the exact number of pounds of comb or extracted honey that I obtained, but I am well satisfied with the yield.

As so many have given their plans of wintering bees, I will here also give mine, with which I have been very successful for the past 6 years.

I either put a quilt on the top of the frames (removing the honey-board) or pack the tops with something that will absorb the moisture, then put them in a row, close together, the fronts of the hives facing the east ; then I put a board about 10 inches wide in front of the hives, to keep the covering that is put over them from clogging the entrance. I then cover the whole hives with wild grass or something that will turn off the water ; I make it 2 or 3 feet deep in the front, on the back and on the top of the hives. I never had a single colony smother in that way and shall practice it as long as I keep bees.

I adopt the words of R. L. Mead, on page 49, of the last number of the Bee Journal.

I was glad to see a word from an old friend, A. B. Mason, as he used to be the Secretary of the Iowa Central Bee-Keepers' Association, but with all our efforts the Society died a natural death.

I cannot afford to be without the Journal. I use the Langstroth hive.

West Branch, Iowa, Jan. 5, 1880.

From N. Y. Tribune.

Description of the Bee-Moth.

PROF. C. V. RILEY.

This insect (Gallerea cereana, Fabr.) belongs to the Lepidopterous family Tineidæ, very troublesome and destructive in the hives of the honey bee. The perfect form is a winged moth of a dusky gray color measuring from ⅝ to ¾ of an inch in length from the head to the tip of the closed wings, the wings expanding from one inch and one-tenth to one inch and four-tenths. The female is larger than the male. There

are two broods yearly. The moths of the first brood appear late in April or early in May; those of the second are most abundant in August; but they may be found during the greater part of the summer, as others come to perfection between and after the above periods. They remain quiet during the day, unless disturbed, on the sides or in the crevices of the hive, and in the evening, when the bees are at rest, hover around the hive till they find the door, then enter and lay their eggs.

Those that are prevented in any way from reaching the interior, lay their eggs on the outside of the hive or on the stand, whence the worms as soon as hatched, creep easily in through the cracks, or gnaw a passage under the edges. These worms, at first no thicker than a thread, have 16 legs and soft, tender bodies, yellowish-white in color, with a few sparsely scattered brown dots, from each which grows a short hair. The heads are brown, and there are two brown spots on the top of the first ring. They begin to spin directly they are hatched, each one making for itself a tough silken tube wherein it can turn or move backward or forward

at pleasure, and in which it lies concealed during the day, coming partially out at night to devour such wax as it can reach. Beeswax is their only food, and they prefer the old to the new comb. As they increase in size they enlarge their tubes, and coat them exteriorly with grains of wax mixed with their own castings, which resemble gunpowder.

Thus shielded from the stings of the bees, they work their way through the combs, gnawing them to pieces and filling the hive with their webs, till the discouraged bees abandon their perishing brood and wasted stores, and leave the worms entire possession of the hive. The bee-moth was probably brought to this country, with the common hive-bee from Europe, where it is very abundant and does much mischief. There are many contrivances, patented or not, for protecting the hive from the invasion of the moth; but there is no better way of preventing its injuries than by keeping the colonies strong, and by visiting the hives regularly in the early morning hours. The moths may then be found hiding under the ledges and about the hives, and, being at this time sluggish and disinclined to fly, they may be readily crushed.

For the American Bee Journal.

The Sourwood Honey, Etc.

J. F. MONTGOMERY.

Last winter was the most disastrous one on bees within my knowledge. In the fall of 1878, I had about 100 colonies, but the extreme cold weather reduced them so much, that in the following spring I had only 28. Some of my neighbors suffered even worse than I did. I did very well with the 28, for with three that I bought in the summer, I have now in winter quarters 98 colonies, and up to this time they all appear to be doing well, carrying in rye flour every warm day; nearly all the days for a month past having been warm. Two days since, I examined some of them and found sealed brood in several. I do not recollect of ever seeing queens lay thus early. If they keep on, I will certainly have strong colonies in the spring.

I got a little over 2,000 lbs. of extracted honey from my bees last year; have sold nearly all that I have to spare at 10c. per pound. I obtained about 800 lbs. from the poplar, the rest from the sourwood.

I send you a sample of the sourwood honey to-day, and I want you to tell what you think of it. I see that some writers assert that all pure honey will candy. I wish to inform them that they are mistaken. The coldest weather I ever experienced, the thermometer stood at 20° below zero, and the sourwood honey did not candy then, and you may put this in your Museum and let it stay for years and I have no doubt but it will remain liquid.

I wish you and your readers much success for 1880.

Lincoln, Tenn., Jan. 5, 1880.

[We cannot say that we prefer the taste of sourwood honey, nor do we like it as well as we do that of some other kinds; still it is very good, and will be very valuable for table use as well as many kinds of manufactures. We place this in our Museum and shall await with patience the test as to candying. We have some here now, and though it is not candied solid, still it is quite thick. That from different sections may vary in this particular.—Ed.]

For the American Bee Journal.

Honey Production in the South.

W. C. HOWES.

By the report of the National Convention, held at Chicago last fall, I see that C. O. Perrine stated that during the summer months no honey was to be stored in the South. However true this may be of Louisiana, where Mr. Perrine operated, here in Florida it is different. Our honey season commences in February, with the yellow jasmine. In March we have orange flowers and a species of myrrh; these yields are used almost entirely for brood. In April, usually about the 16th, comes a drouth, which usually lasts about two weeks, when the saw palmetto (*Chamærops palmetto*) comes into bloom and furnishes the first considerable crop. It is a member of the innumerable family of palms; the root, or more properly the trunk, grows on the top of the ground about 6 feet, and then turns up from 6 inches to as many feet, bearing a bunch of broad serrated leaves, and two or three sprigs of white flowers, each sprig about 18 inches long. A little later the black mangrove (*Rhigophora*), a bush which lines all the salt lagoons of the south Florida coast, begins to bloom, furnishing a very clear and palatable honey, and stays in bloom for 6 weeks or more. In July, the best and largest crop of the year, the cabbage palmetto (*Areca*) opens its flowers and the bees

have an inexhaustible supply for a month or more. This palm is best known as the emblem of the State of South Carolina, and like the saw palmetto, grows in great abundance. It sends out long sprigs 5 or 6 feet, covered with yellowish white flowers, and furnishes large quantities of clear light honey of excellent quality; the supply usually stops about August 10th, and practically ends the season, though later comes, with other minor supplies, plums of the saw palmetto which exudes a sticky syrup, that is eagerly gathered and stored by the bees. These plums are of the date family and of intensely disagreeable taste; they are sometimes pressed and an oil and syrup obtained by boiling, which is one of the most valuable of remedies for lung complaints and dyspepsia.

Beck Hill, Florida.

For the American Bee Journal.

Seeking for the Best Hive.

JAMES HEDDON.

Very many inexperienced bee-keepers expect too much from the hive. That is, they imagine if they only get the best hive all trouble is over and success is certain. Such is not the case, however. Another extreme is, that it makes little difference what hive one uses if the manipulation is only right. This is not true, either. It seems to me that a good workman will use good, sharp tools; if he cannot buy them, he will make them. Again, good, sharp tools have a tendency to educate their user.

So far as I have observed, I have always found the bee-keeper's success in keeping with the value of his time. Awkward and ignorant honey producers use awkward and clumsy hives. The hive that will give satisfaction to the amateur, will not do at all for the honey producer with many colonies. The outfit of tools required to produce five or ten tons of honey, is not the same that gives satisfaction to the novice. The same is true with regard to hives. To keep from 200 to 500 colonies of bees all the time busy, requires the steady manipulation of several attendants during the producing season. These men will not have any time to open and shut side-doors, pull little tin slides, or cut out four or five sets of queen cells every fifteen days from all these colonies. Let me tell you how to save labor. Go to bed early, lie on your back, shut your eyes, turn your mind to your apiary in July, and to hive No. 21. This is a strong colony of dark Italians, or a cross between them and the large brown bee, rapid comb-builders, great workers, and peacefully inclined. Now, imagine this colony getting everything full, and just "out of a job," and also 249 more coming along rapidly on the same road. You see something must be done, and that quickly, too, for there are 249 more jobs of the same kind following in rapid succession, which must be done just right and at the proper time or great loss will ensue. What is to be done? Now, in your imagination look at the hive; its condition, and see, had that hive been made properly, if part of these conditions would not have regulated themselves. Take another look, and see if all the work that you *must* do could not have been accomplished with the manipulation of the surplus department only, had the whole structure been made just right. You will see that it could. Now, if you did not eat too much supper, your blood will circulate to and from the brain freely, and your imagination have become sharper by this time. The next thing is to get a clear idea of the best surplus arrangement to facilitate clean, quick removal and readjustment with the least disturbance of the bees. This accomplished, you feel a wakeful-sleepiness, a kind of active-tired condition, and part of the weight is off your mind. You then go to sleep. Do you dream of hives? No; you dream of burglars; awaken about 3 o'clock just a little scared, which very soon gives place to that bee hive again. You think, "What a fool I was to get scared, and also to worry my nerves about a bee hive; but that is a good arrangement, if it's all right for winter." By this time your mind is fully into that hive again, and you go through fall manipulations, and then become a colony of bees! You get into it and imagine yourself down cellar four months; then you are a honey-man again (on the road to fortune), carrying the concern out of the cellar in March. You like the hive because it has a tight bottom and is light; it don't fall to pieces, but goes right on its summer stand as easily and as quietly as can be wished for. If there are a few dead bees in it, the live ones will carry them out; if there are very many, the frames should come out, even if the bottom was loose. The special bee-keeper must have a hive that is as near self-operating as can be made, if he expects to compete with those who have such hives and have been longer in the business.

If some one hive embraced *all* the valuable features that we desire, we would recognize it at first sight; but to rig up just right to gain one point neces-

sitates the omission of another. Hence, it requires not a little judgment to decide correctly which of all the many hives (all claimed to be the best) is the right one to adopt. For the above reasons, we have changed from one to another, and perhaps back to the first one again, and no doubt many at the present time are yet undecided as to which is the best hive.

Dowagiac, Mich., January, 1880.

For the American Bee Journal.

Stray Thoughts from Kentucky.

W. VAN ANTWERP.

To-day is pleasant and warm; though we had a sharp frost last night. Bees are flying as merrily as in June. I have taken much care to learn the status of bees in this county and I find fully one-third are already dead, and I fear the result of this open winter; while it does not kill by freezing, yet the frequent flights will exhaust the honey and deplete the hives. The intelligent bee-keeper has naught to fear, for with the feeder during warm nights he can feed up for several weeks of bad weather. I have 18 colonies in winter quarters, all in good condition. I use a common-sense hive of my own manufacture.

The frames are 11x12 inches outside measure, with space all around ⅜ inch; not having hiding places for moths, and strong colonies of Italians, make a moth proof hive; they have a division board at each end and a blanket on the top, to absorb the moisture, and I feel safe. I was more than pleased to know that some person had succeeded in fertilization of queens in confinement and in a somewhat similar manner to my own, which I gave at the meeting of the Kentucky Bee-Keepers' Association at Lexington. I have great faith that it will be accomplished in an easy manner; we must recognize the requirements of Nature, and conform as nearly as possible to them.

The two-story hive for extracting and prize sections for comb honey, with foundation starters, are my methods for obtaining surplus. I saw in the JOURNAL another method of using the prize sections. I have succeeded admirably by using a section holder similar to the old honey box, minus top and bottom, with cleats for the bottom of the sections to rest on. This filled with section frames gives opportunity for the whole lot to be raised up when full: I then insert an empty one over the brood-chamber, replacing the first one on top of it to season it, and get it capped over; thereby utilizing the heat that ascends and save time, for the under-holder of sections are half full by the time the upper ones are entirely finished.

I obtained from 4 colonies of Italians 572 lbs. of comb honey in 1878; last season was a total failure, and I only obtained 130 lbs. of surplus from all of my 18 colonies; strange to say it was the yellow banded fellows exclusively that gave this, not a colony of blacks gave any surplus or even worked in the upper story.

I Italianized all my blacks last Aug. Mr. H. Alley, of Mass., sent me splendid queens, and everything was just as represented, which I cannot say for every one that I have traded with. I do not wish to disparage all other queen breeders, for I know of many good ones; as a class they are honorable gentlemen.

Mt. Sterling, Ky., Jan. 10, 1880.

For the American Bee Journal.

Description of my Section-Boxes.

D. P. CAMPBELL.

They are 4¼x4¼ inches; the sides and ends are the same width, making much neater boxes than the ones with narrow bottoms and tops. I use tin separators 4⅛ long by 3⅜ wide. I get strips of basswood ¼x¼, and groove them in the center, 3-16 deep, and the same width as the thickness of the tin; then I cut the strips up 4¼ inches long and put one on each end of the tin; that will leave 7-16 above and below the tin separator, which stands on the rack between the section-boxes, and it leaves ¼ inch between the sections for the bees to go in, and they will build the comb in each section ¼ inch thicker, so that a 1¾ section made in this way, holds the same amount of honey as a 2 inch one made in the old way. The outside separators are made with wood on both ends and top and are the same size as the section.

To hold the sections and separators together, I use a wire coil spring about 2 inches long and ⅜ in diameter and tie a cord to each end, a little shorter than goes around 7 sections with separators in place; then I put the cord around them and the spring gives enough to let it on easily, and holds them so solid that they will lift off the rack without moving the least. I would like to obtain the opinions of other bee-keepers on this plan.

Park Hill, Ont., Canada.

Letter Drawer.

Morenci, Mich., Dec. 24, 1879.

In 1878 I took 6 colonies of bees, very light and weak, on shares, and last fall and winter I bought 12 more. Nov. 13, 1878, I put 19 colonies into the cellar, and on January 13th, put in 11 more. I kept them all there till 14th of April, when I put them out on summer stands. One weak colony had lost its queen, and I doubled them up with another light colony. Two colonies swarmed out and went into other hives within 4 days after I put them on the summer stands. They had a plenty of stores and the hives were clean and nice. This I could not account for. Two were robbed. When I put them out on the summer stands all had an abundance of stores but were rather weak. They seemed to diminish every day for about 3 weeks, then they increased finely and did fairly for the rest of the season both in increase and surplus honey. Why did they diminish so in numbers? I have now in winter quarters 54 colonies; 37 are strong ones and are packed on the summer stands in straw and chaff, and 17 of the lightest are in the cellar. I have taken more pains to make the cellar dark this fall than last, so that it is now totally dark. How another spring will find them I am anxious to know.

C. S. INGALS.

[The first was a case of abnormal swarming, upon which the JOURNAL for last spring contained several articles. In the latter case, evidently the bees were old, and the diminishing was caused by their death from natural causes, and not until it was warm enough for the brood to hatch, did they increase again.—ED.]

Brecksville, O., Dec. 29, 1879.

The past season has given us less honey than usual, still our bees are apparently in as good condition or better than last year, and the prices of honey better. There is a very encouraging demand for extracted, and the small crop will have a tendency to use up the bulk of old honey in the market, and leave us an open market and a fair price for the next season's production. From about 40 colonies I have obtained an increase of 30, and about 2,200 lbs. of honey, of which 1,500 lbs. was in the comb in 1 lb. sections and the balance 700 lbs. extracted. I am fully convinced of the importance, utility and necessity of organization. That we may secure better results; put up our honey in more desirable shape, and secure a more uniform and better price. I wish the BEE JOURNAL much success for its enterprise.

CHAS. S. BURT.

Strait,s Corners, Ill., Dec. 23, 1879.

My bees wintered nicely last season. I only lost 2 colonies out of 54. I united 2 in the spring, leaving 51; I took 9 on shares. I increased the 60 to 117, and reduced my number this fall to 111. I am wintering 59 on the summer stands, packed in oat chaff, and 52 in the cellar. The past summer was too cool and dry for surplus; I obtained only 665 lbs. of comb honey and 414 of extracted. I sold the white, in comb, for 18c.; dark, 15c. I will report next spring my plan of wintering and state with what success. Please give me in your valuable JOURNAL, the best plan to exterminate rats and mice from bee cellar.

J. E. PELHAM.

[Catch them with traps.—ED.]

New London, Ind., Dec. 27, 1879.

I have 32 colonies of bees in the cellar, in American hives. I left off the cap, closed the bottom and opened the top. I would like to hear from others who winter in cellars, as to how they prepared them. Mine appear to be all right, so far as I can see. My cellar is a good one and is quite dark, with a 3 inch tile ventilator that answers for drainage as well as ventilation. I have a stove flue from bottom of the cellar, to draw off damp and foul air.

C. A. JONES.

Dixon, Ill., Dec. 14, 1879.

Bees are doing well, but some are dying from old age. In some hives there is quite a deposit of frost, while others are dry and have no frost, and do not seem to lose any. I expect if any die, it will be those that have the frost. I cannot account for it as they were all put up exactly alike; why should one be frosty and others not? I have 11 in chaff hives; these seem to get along without any trouble and if I prosper next year I will use all such hives. I am getting up a chaff hive of my own to contain 4 colonies, each having 8 Langstroth frames in winter and 22 in summer. to have 6 inches of packing all around the brood in winter, but none around the upper story in summer. My object is to get something cheap and good, so that the bees will help to keep each other warm. I think it will do it.

B. F. PRATT.

Dyersburg, Tenn., Jan. 12, 1880.

I have about 40 colonies, which produced last season about 1,200 lbs. of honey. The honey harvest was very poor, and my locality is not a good one for bees; we have no basswood, and but little white clover. I have not yet raised any honey plants. I winter on the summer stands and but seldom lose any bees in winter. My bees are all blacks, though I intend to get some Italians. I have been keeping bees about 15 years, and use the Kelsey hive. Can you tell me where I can get parlor pictures that show something of bees? What can I do with my honey to make it candy? I want it to granulate. At sunrise this morning the thermometer stood at 65°; it has been rising for 10 days. My bees are gathering pollen from the soft maples and cypress vines.

J. H. CHRISTIE.

[Some of the Italian chromos of bees, much magnified, would look well framed. They are $5.50 per set. We know of no way to make honey granulate; cold weather will usually cause northern honey to granulate.—ED.]

Crown City, O., Dec. 24, 1879.

My bees had a good "fly" yesterday. All appeared to be doing finely. I have 80 colonies in an out building with straw around them and I shall keep them confined till pollen appears.

C. S. NEWSOM.

Granville, O., Jan. 8, 1880.

My bees are all wintering well, thus far. They were out for exercise on the 7th inst., and got back with very little loss. All your old subscribers to the BEE JOURNAL renew cheerfully, and are anxious to get the JOURNAL. One person saying he would take it if he never expected to see a honey bee. My best wishes for your continued success; and a large subscription list.

W. H. SEDGWICK.

Sharon, Vt., Jan. 6, 1880.

With 30 colonies last spring, I obtained 1,200 lbs. of comb honey and 13 swarms. I use the prize sections and the Langstroth hive. I sold 13 colonies. I put my bees into the cellar, Nov. 1, having a plenty of bees and honey. My profits last year were over $200, after paying all expenses. That is doing well; but I can do better when I learn more about how to take care of them. I like the BEE JOURNAL very much, and would not like to keep bees without it.

CLARENCE A. MARSH.

Plymouth, Wis., Jan. 6, 1880.

My bees had a good flight on the 4th inst., all being healthy yet. The snow is gone, and we are having considerable rain. The bees are having another jollification to-day.

J. N. MCCOLM.

Otsego, Mich., Jan. 3, 1880.

My bees had a fine fly yesterday. Bingham's apiary is now safe from reasonable fear of dysentery or spring dwindling for this season.

T. F. BINGHAM.

Parkman, Maine, Dec. 29, 1879.

I have 18 colonies in the cellar and 7 on the summer stands. I have a large tenement hive with shingled roof, containing 4 colonies. After the severe cold weather when the thermometer went down to 30° below zero, I examined them, and found them dry, warm and in good condition. I have no fears of their wintering well.

W. H. GREEN.

Kenton, O., Jan. 3, 1880.

Our bees have had a fine fly to-day, after being confined for one month, on the summer stands. On examining them we find all in good condition. All have brood, and some have hatching brood, which is uncommon for this time of year. The past season has been a poor one for honey, but bees in this locality are in good condition to winter as far as bees and honey are concerned.

SMITH & SMITH.

Augusta, Maine, Jan. 5, 1880.

In some parts of this State bees have done fairly, both as to swarms and surplus honey, but, in my locality, it has been too cold, wet and windy for the bloom to give much surplus honey. The white clover season lasted but a short time, and the fall crop did not amount to much; yet most of the colonies have enough good honey for winter. The honey being of excellent quality, will, I think, cause bees to winter better than they did a year ago. They went into winter quarters with more bees than a year ago; this I think is one good point both for winter and spring. The losses of bees by the cold winter of 1878 and spring of 1879 was larger in this locality than for many years before, and what bees were left at the commencement of the honey season, had a good deal of building up to do before swarming and working in surplus boxes. The AMERICAN BEE JOURNAL I regard as a bright star, shining, not only in our own, but in nearly all the countries of the world.

ISAAC F. PLUMMER.

Freeman, Mo., Jan. 3, 1880.

The past year was a singular one. The crops were good, and yet, there was no honey gathered. My bees did not obtain enough to winter on, but having a plenty of honey left from the year before last, I fed them bountifully with it in the fall. They are now in good condition, and well packed with flax-straw on the summer stands. Bees will be scarce in this neighborhood next spring; about one-half of them are now dead, and the rest will probably die in the spring, if they are not fed. How can glass be cleaned of propolis?

P. DUNCAN.

[In the January number of the BEE JOURNAL, may be found a receipe for cleaning glass. See page 24.—ED.]

Waverly, Iowa, Jan. 2, 1880.

My bees did well last season, from 21 colonies in the spring I obtained 15 swarms and 1,200 lbs. of comb honey, besides some 300 lbs. of partly-filled combs, which will be very good for starters next season. I wish the BEE JOURNAL success and send herewith a club of six subscribers.

THOS. LASHBROOK.

Wenham, Mass., Dec. 27, 1879.

Bees wintered finely thus far; the weather has not been very cold, with the exception of a few zero days. One cold zero day is about sure to be followed by a week of moderate weather. My bees are all on the summer stands, and I expect no spring dwindling. I have experimented with in-door wintering as much as I care to. I can winter them well enough in the cellar, but find it almost impossible to "spring" them. I have changed my ideas about wintering on summer stands, I formerly thought that bees needed upward ventilation; now I give none upwards, and as much as possible about the bottom.

H. ALLEY.

La Crosse, Wis., Jan. 5, 1880.

DEAR EDITOR.—The BEE JOURNAL for January is at hand, and I read with interest the interesting letters written to you by some of the leading apiarists in Europe, expressing their esteem for you, and their appreciation of your recent visit to Europe. The articles from some of America's most experienced bee-keepers, I also read with great delight. I can say with pleasure that the AMERICAN BEE JOURNAL is the most interesting and instructive bee paper that I ever saw. About Dec. 4th the weather became quite severe until Jan. 4th, during that time the thermometer was down to 31° below zero; keeping the bees confined about 30 days. On Jan. 4th, the thermometer indicated 45° above zero. The day was full of delight to the bee-keeper who could see the bees playing at the entrance of the hive, taking a flight and then returning, very fatigued. They appear to be in a healthy condition.

L. H. PAMMEL, JR.

Columbus, Ind., Jan. 7, 1880.

My bees are all on their summer stands yet, and are doing well. Judging from the condition of the bees kept in my neighborhood, fully one half will starve before spring, unless fed soon. My bees are strong in numbers but short in stores and if this mild weather continues, they will commence breeding and consume what they have, before they can gather any in spring, and they must be fed.

JOS. M. BROOKS.

Madison, Wis., Jan. 4, 1880.

Last spring I had 10 colonies of Italians in Langstroth hives; I increased them to 14, and obtained 943 lbs. of extracted and 104 lbs. of comb honey. I winter on the summer stand, in two-story chaff hives. The bees are having a nice "fly" to-day. The thermometer stands at 40° Fahr. in the shade.

C. SPANGENBERG.

Mount Joy, Pa., Dec. 22, 1879.

My 72 colonies are all in the bee house. I put them in on the 29th of November. I have already heard of young colonies starving. Many of the late swarms did not store enough honey for winter, and will starve if not fed. It was a poor honey season; and the bees gathered no honey after the latter part of June, not even enough for their own consumption.

J. F. HERSHEY.

San Bernardino, Cal., Dec. 17, 1879.

During the six years in which we have been in the business here, we have not before had a total failure in our honey crop. In all of this year we have not taken one pound of honey from our 150 colonies of bees; which are in Harbison hives, and in fine condition for next season's business; which we look forward to hopefully; having already had here in the mountains seven inches of rain. During the last 24 hours we have had 6¾ inches of rain; making thus far, for the season 13¾ inches. Please allow me to express to the editor of the BEE JOURNAL my kind congratulations on his safe return from his glorious European tour, and to say as a subscriber to the most valuable journal, and

as an American bee-keeper, I feel highly gratified at the very able manner in which we were represented at the great gatherings of European apiarists.

A. W. Hale.

Galena, Ill., Jan. 1, 1880.

1. Our bees have a very annoying habit of fastening the honey in the prize box to the tin separators, have you any remedy or preventive?

2. What do you know as to the value of the spider plant and fig-wort or Simpson honey plant, so highly spoken of by Mr. Root in *Gleanings?*

3. Why do people laud the alsike clover when it blooms at the same time as white clover?

4. Can you tell us how to keep moths from comb during May and June?

T. Hallett.

[1. The bees will sometimes fasten comb to the separators, but only when the sections are allowed to remain on the hive after being finished. They should be removed as soon as capped.

2. We have had no experience with the plants named.

3. Because it can be made available *at once* when the white clover fails; and because it makes good fodder and hay.

4. Keep the combs in a cool, airy place, and hang a little apart from each other. Combs that have been exposed to a temperature of 10° Fahr. will not become wormy, if kept where no moths can get at them.—Ed.]

Grenada, Miss., Jan. 13, 1880.

My bees have been gathering pollen since Dec. 23. The pollen is from at least three sources, maple being one. A few days ago they carried in such quantities of it that large numbers of pellets were dropped in front of some of the hives. My 25 colonies are all vigorous and strong. I anticipate a large increase this spring and will use about 300 lbs. of bitter honey I have on hand to swell the increase. Success to the American Bee Journal. If any Northern man wants a farm in the Sunny South, good for bees, corn, cotton, potatoes and all fruits; also cheap, healthful and convenient to good schools and good neighbors, let him write to me. Oscar F. Bledsoe.

Smith's Grove, Ky., Jan. 12, 1880.

I cannot do without the Bee Journal. My bees are in good condition, and the prospect points to a good honey crop this season. N. P. Allen.

Milano, Italy, Dec. 15, 1879.

Dear Friend Newman:—Many thanks for your kind letter enclosing the photograph which you promised me while here. It is an exceedingly good likeness. You may be sure I shall never forget you. Thanks for your kind invitation to visit America and her apiarists. I have lately seen Count Barbo, President of our Society, and he desired me to extend to you his friendly regards. We flatter ourselves, dear sir, that you will now and then remember your Italian friends. We often recall with the greatest of pleasure the short time spent in your charming company. Winter has already set in here, and we have had a large quantity of snow, since November came in. The season, taken altogether, seems to be a very extraordinary one.

Alfonso Visconti di Saliceto.

[We extended an invitation to Count Visconti di Saliceto, the editor of *L'Apicoltore*, as well as to Count Gaetano Barbo, President of the *Central Society d'Apicoltore d'Italia*, to make us a visit, and attend the next meeting of the National Society, and we are sure they would enjoy a visit with the progressive apiarists of America, for whom they have already formed great admiration. They say that they shall avail themselves of the pleasure of visiting us, though perhaps not this year. They will meet a very hearty welcome, come whenever they may.—Ed.]

Parkman, Maine, Jan. 12, 1880.

My bees averaged 100 lbs. of surplus honey for the season of 1879, and also increased 150 per cent. Had the season been a good one, I should have done even much better. I had 10 colonies last spring; I now have 25; 18 in the cellar and 7 on the summer stands, all in good condition. I sold all my honey at 25 cents per pound. I shall not be able to half supply the demand.

W. H. Green.

Hesperia, Mich., Jan. 11, 1880.

At the Jackson Convention I said I never lost a colony of bees when I wintered in the cellar. But last winter I wintered on the summer stands. At the time of the thaw in February they were all right, but the latter part of the winter used them up, so that I lost 80 out of 100 colonies. They are all right now Jan. 11th, and in the cellar. Our Secretary got my statement mixed with some other report. L. Martin.

1. How far apart should brood frames be on the rabbet for wintering?

2. How soon in the spring should these frames be spread apart to receive extra frames?

3. Should the surplus boxes be put on as soon as fruit trees are in bloom?

4. Should the honey be extracted from the brood frames, while the surplus boxes are on? Will the bees fill the upper story while there is room below?

5. Which is the best method of introducing queens to Italians reared in our own apiary? Suppose I have 30 colonies of black bees to Italianize, should I not get Italian drones flying as early as possible, then start as many nuclei as I need queens, and as soon as the young queens are fertile, introduce them to black colonies, and then give the nuclei another set of queen cells in order to have them build up to strong colonies during the summer?

6. Is glucose suitable for food, either for bees or man?

7. Is store candy suitable for feeding bees? A. SUBSCRIBER.

[1. It makes but little difference. We should leave them the same as in summer.

2. We should not spread them at all.

3. No invariable rule can be given as to time for placing the surplus boxes, for all locations; or even for any one, applicable alike to every year. You must use your own judgment.

4. Extracting from brood-frames is, as a general thing, now abandoned by our largest honey-producers. If the hive is properly constructed and arranged, it is unnecessary.

5. Your plan will no doubt prove successful.

6. As usually made in this country, it is not suitable for food, either for man or bees. The white French glucose, or that manufactured in a similar manner to it, may be different; but we have had no experience with it.

7. Some report success with such, but ours never was very flattering.—ED.]

Libertyville, Mo., Jan. 19, 1880.

My bees gathered their first pollen yesterday; some colonies have sealed brood and are apparently in good condition. The BEE JOURNAL for January came on time; *Gleanings* came next; then *Magazine* was received, but no *Exchange* yet. J. B. DINES.

Lawrence, Ill., Jan. 6, 1880.

Some bee-keepers take surplus in sections that are placed inside of the body of the hive. I want to ask if they are not troubled by the queen laying in them? I have tried it, but the queen gets the start of me.

J. LEE ANDERSON.

[The verdict is a mixed one; some saying that they are not troubled by the queen laying in the sections, but very many more stating that they are annoyed by the presence of eggs where they are not desired. Top storing is by far the most desirable method.—ED.]

Springville, Wis., Jan. 9, 1880.

I have 13 colonies wintering well on their summer stands; they have had "a fly" at three different times lately, so I think they will live through another cold spell. I use frame hives and last spring I made what I think is an improvement on the frames, by putting a piece of wood in the middle of them, running from the top to the bottom. It is made of wood ½ inch thick and 1¼ wide with ⅞ hole about 3 inches from top-bar, for winter passage. It makes a stronger frame and the comb is less liable to break loose in handling. The idea was suggested by having combs break down, after making an artificial swarm last spring. A neighbor of of mine has 30 or 40 colonies in box-hives. He says he knows how to manage that kind of hives and does not want to bother with any other. Last fall he said that his bees had not got half enough honey to keep them through the winter, and that he should brimstone them. Part of my bees are Italians, and the rest are blacks; the Italians made some surplus, the blacks none. The Italians worked on second crop of red clover and not a black bee touched it. I intend to Italianize my blacks in the spring, if I can learn to do it successfully. C. J. CHURCH.

Iola, Florida, Jan. 9, 1880.

Our bees have had a splendid winter. We have not had cold enough to kill sweet potato vines. Bees were busy on Christmas day, bringing in honey and pollen. They have not stopped work but for a day or two during the whole winter. Orange trees will be in bloom now in 30 days, and they will then have a fine time. We are just beginning to try the Italian bees. We find them much superior to our native black or brown bees.

ALDERMAN & ROBERTS.

Conventions.

Translated from the Bienen Vater.

The Austro-German Congress.

KARL GATTER.

As a delegate of the Vienna Bee-Keepers' Society, it was my mission to visit the Convention of German and Austrian apiculturists at Prague, to notice and examine in a scientific manner the exhibition of apicultural objects which was held in connection with said Convention, to take part in the proceedings and to write out a report.

The peregrinating-Convention of German-Austrian Bee-Keepers, which is annually attended by a large number of apiculturists from various countries, was this year held at Prague, Sept. 7–11.

The international bee exhibition in connection with the convention was visited by large numbers of the citizens of Prague; and people from the country came in throngs, from far and near, to witness the progress made within the province of bee-keeping and the results of rational apiculture.

Those who took part in this Congress numbered about 600, among these were many apicultural celebrities from other and far-off countries. From America came the Hon. Thomas G. Newman, as a Representative of the National Society of Apiculture in North America. From Russia came States Senator Butlerow, who brought from the Czar of Russia and by his authority invested Dr. Dzierzon with the order of St. Anna, of St. Petersburg. From Italy came Prof. Louis Ritter V. Sartori. Besides these there were many other notable persons both from Germany, Austria, England and other European countries.

The opening of the international exhibition of live bees, products of the bees, bee-hives, bee implements, machines and mediums for instruction, took place on Sept. 7th, and in the presence of His Excellency the Vice Regent, Baron Weber von Ebenhof. At 10 a.m. he arrived in his carriage, and after being greeted by the committee of arrangements, he was conducted to the pavillion, near the entrance, to which also all other distinguished personages were conducted. After some music the Secretary of the Bohemian Council of Culture, Mr. Ferdinand Hiller, representing the President, Herr Ritter von Komers, whose absence was caused by sickness, thanked His Excellency, the Vice Regent, for the high honor, which through his presence he was bestowing upon the Society of German and Austrian bee-keepers. The speaker welcomed the participants of the exhibition, which, he said, contained much that was interesting, where the smallest and most insignificant of objects would serve its aim and end by a harmonious conjunction with the entire whole.

The special exhibitions of apiculture are the faithful companions of the Austro-German conventions, now having existed through a quarter of a century, we hope that our Prague exposition may be just as worthy and deserving of praise as its predecessors have been, that the productions of an improved practice and the achievement of scientific researches, may be made subservient to the progressive development of apiculture, which is one of the most poetical branches of rural economy. The exhibition furnishes evidence of what genuine German and Austrian bee industries have created, and may it produce upon all participants a pleasant and lasting impression.

After this German address, Herr Secretary Hiller made an eloquent speech in Bohemian, and amid great enthusiasm and cheering, he proclaimed the exhibition open.

Before his Excellency, the Vice Regent, left the pavillion, he signed his name in the memorial book. After that his Excellency, accompanied by several members of the committee, examined all the departments, beginning with the apicultural products in the lower story; the rich collections of various kinds of honey, the wines and liquors produced from it, and other specialties; also, the exhibition of honey cake, preserved fruits, confections and gingerbread-figures, products of wax, books upon apiculture, periodicals and mediums of instruction. His Excellency conversed in a friendly manner with all the bee-keepers who were introduced to him, and did not disdain to test some of the gingerbread productions that were presented to him. Then His Excellency examined the apicultural implements, had their purpose and manipulations explained to him, and expressed his great satisfaction to the inventors of these ingenious and practical implements. Then His Excellency inspected the bees; every hive that exhibited anything interesting was inspected from all sides, and the occupants thereof watched in their wonderful work. The Vice Regent declined to use the wire mask which the committee offered him for protection against the stings of bees. The bees seemed to be very amiable for during

our long stay we heard no one complain of being stung, and the bee-keepers seemed to be proud in no small degree, that their wards behaved themselves so well. After the Vice-Regent had viewed all the exhibits, he expressed to the committee his high appreciation of the exhibition and took his departure.

Then the numerous bee-keepers and bee friends commenced to inspect each exhibit, and to criticise every object one after another from a scientific standpoint. The exhibition was really so copious, and the mass that was laid out so interesting and fascinating, that even those not bee-keepers felt themselves attracted in a great degree by the wonderful spectacle they were witnessing, and through it became eloquent advocates of the noble art of bee-culture.

The exhibited objects were divided into four groups, as follows: 1. Live bees; 2. Honey, wax and similar products; 3. Vacant bee-habitations, apicultural implements and machines; 4. Apicultural literature and educational mediums.

It would carry us too far, should I make mention of all; let it suffice by referring to what mostly attracted my attention. The living bees were interesting in various ways. Above all, the Caucasian bees brought from their home to Europe by the Russian Counsellor of State, Butlerow, were worthy of distinction, being exhibited here for the first time. Although no opinion can be expressed yet as to the practical value of these bees, it is certain, as I have convinced myself, that they justify their reputation of being the gentlest bees in existence. Cyprian bees were there, of excellent beauty.

It gave me great pleasure to meet with Mr. Cori, from Brix, in the exposition rooms, for this man was the first one who had received this race from Count Kolowrat, for the purpose of breeding from it, and who had taken great pains in handling and manipulating these bees, as his articles written for a number of periodicals sufficiently testify.

The bees that were exhibited by the Counsellor of the Consistory Stahala, represented this race, through their pretty coloring, in an excellent manner. Mr. Gunther also exhibited handsome Cyprian bees.

Of the Italian race, the queens of Father Dzierzon were admirable. Besides these, there were handsome colonies and queens brought hither by Prof. Kheil in a leaf-hive; by Mr. Tremontani in original log-hive; by Prof. Sartori, from Milan, and others.

The second group embraced honey, wax and products prepared therefrom, or mixed with the same.

Honey-combs were especially an object of interest. A picture put up by Counsellor Stahala, excited the admiration and attention of all visitors. Combs built by Cyprian bees and filled by the same, formed these words: "Vivat Franciscus Josephus et Rudolphus!"

Among the glass globes that were to be seen, one especially was very beautiful, within which the honey combs built formed the Bohemian Crown; others were in the shape of a heart, a star, etc.

Extracted honey was exhibited in great abundance; acacia, rape, linden, white clover, fennel, and scorzonera honey; also honey from Italy, Havana, America, Greece (Mount Hymettus), and Palestine.

Honey pastry, Honey pepper or gingerbread, formed into whole mountains. Especially palatable was a certain kind of honey-bread, which has great similarity with our "Keetzen" bread and will soon become a great favorite.

Fruits preserved in honey (such as currants, pears, apricots, etc.), were abundantly represented, and this use of the honey will, with the increase of honey-production, soon become more general.

Of honey beverages there were several kinds of mead and honey wines, also imitations of Malaga, tokayer, sherry and Madeira wines, agriot, cumin, vanilla liquors and nut beer with honey, most of which were very palatable.

Wax could be seen in abundance and of great beauty and purity. A great deal of attention was attracted by a bust of His Majesty the Emperor, artistically executed from his own model and from his own wax by a member of our Society, Herr Reibstein, from Bubenc; also a wax beehive of a natural size, by Mr. Schultz; wax-candles, by Herr Prokopp, from Friedland, and imitation fruits (plums and pears), coated with wax.

Here I will also make mention of comb foundation, which is coming more and more into general use. The idea originated with the well-known cabinet-maker Mehring, although he did not follow the matter up; the Swiss citizens Peter Jakob and Blatt, then the teacher Kunz, at Jagerndorf, Macner at Pisek, Otto Schultz and others took hold of and perfected this invention which gradually ripened into great importance, and which especially finds great propagation through the presses of Mr. Greve.

Otto Schultz takes the first rank in Europe, in the production of comb foundation. While previously the production of comb foundation could only be perfected through presses that were expressly made for each different size of comb, they now use rollers, by which the foundation can be made as long as you please. The competition that has arisen lately in regard to this article, has now, to the great advantage of apiculturists lowered the prices thereon and secured to this manufacture a larger number of consumers.

Third group, vacant bee-habitations, implements and machines. This group was exceedingly varied, containing much that was good and to the purpose, but also much that was useless.

For the amateur and those that have just commenced bee-keeping, the objects of this group have often been discouraging; many think that they must use, if not all, at least a great many of these in order to be successful. One needs really a great deal of knowledge about bee-culture to be able to separate the chaff from the wheat.

Northwestern Bee-Keepers' Union.

REV. JAS. G. TETER.

Enterprising bee-keepers of the northwest have felt the need of some kind of an organization for years. Very much mutual benefit may be derived from such a gathering. An effort was made last September at the time of our State Fair to effect such an organization. Many expressed themselves as deeply interested in the move, and pledged their sympathy and support. A call was made to meet at the Chamber of Commerce. Some came before the hour and left before the time.

Twelve men started the organization. A president, vice-president, secretary and treasurer were duly elected. The place fixed for the next meeting was St. Paul. The time was the second day of December, 1879. A committee of one was appointed to secure a suitable room and make suitable arrangements. The senate chamber at the capitol was cheerfully offered by our Secretary of State. Railroads offered reduced fare. So did the hotels. A good deal of writing was done to get the names and addresses of all the bee-keepers in the northwest. About 150 names were secured; that is but a fraction of the men actually engaged in bee-keeping in the northwest. To all of these there were sent a postal card, giving the programme, the time and the place of meeting. Somehow there were mistakes occurred that threw us into confusion. Our St. Paul papers at the time of our organization got our next meeting for December 9th instead of the 2d. December 2d came; all things were ready. Six persons put in an appearance. Some had come 20 miles, some 50, and others about 100. One man had shipped some nice specimens of honey, and they were mashed on the cars. Another had shipped some apiarian supplies and they were lost. The Secretary was at his post, but the President and two of the Vice Presidents and the Treasurer were nowhere to be seen. Two reporters, representing the two leading papers of the northwest, were present; which only made us feel so much the worse.

Those who were there were ready to do all the work assigned them.

There were present some specimens of bee-hives, honey-boxes, bee-books, veils, and other apiarian supplies in general. Those few talked matters over, and planned for another meeting. Hastings, Dakota county, was fixed as the place, and the 25th of May as the time. Men were appointed to write essays for the occasion. Mr. Searls, an enterprising man of Hastings, invited the Union to meet there, and as it is central for bee-keepers I hope that it will yet be a success.—*B. K. Magazine.*

From the Bulletin d'Apiculteur.

Lausanne, Switzerland, Convention.

The President, Mons. C. de Ribeaucourt, gave an interesting address, and then introduced Mr. Thomas G. Newman, President of the North American Bee-Keepers' Society, to the Convention, at the same time giving him a hearty welcome, and assuring him that the honor of his visit would be fully appreciated by the apiarists of Switzerland.

Mr. Newman, in acknowledging the hearty welcome, said he was well pleased with the state of apiculture in Switzerland, and hoped that the friendly relations already established between the apiarists of the two oldest Republics of the world would ripen into a bond of union never to be broken.

In obedience to a general desire among those present, Mr. T. G. Newman gave very interesting explanations of the American manner of obtaining surplus honey and its preparation for the market. This he illustrated with a model of the Langstroth hive as generally used in America. It was furnished with a comb honey rack, containing 18 small boxes or sections, each to hold one comb, the whole covered

with a cap similar to the Dadant hive. As this hive so arranged, is intended especially for obtaining honey in the comb in small sections, to be of ready sale, it has a brood-chamber very shallow in order to compel the bees to work in the boxes; such a result being more difficult to obtain with deeper frames.

Mr. Newman also exhibited some magnificient samples of comb foundation of every kind in use; some thick; for use in the brood-chamber; and some very thin for use in boxes; also some with flat-bottomed cells, and wires inserted, to prevent sagging in the brood-chamber. We have already spoken of this invention in the *Bulletin*. Our experiments with it were successful and satisfactory.

Mr. Newman also exhibited to the Convention, an American bee-veil, made of very light material; and also phials containing some Italian workers and drones, which were very remarkable on account of their bright color and size; they are of the brightest yellow.

At half-past 1 o'clock about 50 guests sat down to a Banquet, after which one of our members propounded this question: "Should we sell our honey cheap or dear?" A humorous discussion followed between Mr. Newman and some guests, on this subject, which is now becoming one of the most important questions of the day.

We cannot report all the pleasantries which provoked considerable mirth. Mr. Newman remarked that we should use every endeavor to make honey a staple article, even if we have to place it upon the market at much lower prices than now. The prices demanded in Europe were very high when compared with the prices of honey in America. It should become a favorite article of food, because of its health-giving properities, and medicinal qualities. Anciently it was considered to be "food for the gods" but we read that "man did eat angel's food," so let all eat honey, and rejoice in "the fat of the land." We must develop a market in full accord with honey-production, and then the sale of honey will be immensely increased.

Mr. Nouguier, of Locle, would be glad to sell his honey cheap, but his location was not favorable to the production of honey. Could Mr. Newman promise him such results as they had in America?

Mr. Newman remarked that he had, before dinner, given descriptions of American management of the apiary —all the rest depends upon the apiarist and the honey secretions in the flowers.

A member referred to the wholesale importation of foreign honey, which may be found in every land. His friend, Mr. Newman had just told him that the importation of American comb honey to England was last year, 180 tons, besides that in the extracted form, and two car-loads of it had been brought to Switzerland. If Mr. Nouguier does not increase his production a car-load may be sent on to the Locle.

Mr. Nouguier: What would Mr. Newman think if we should send to the United States of America 180 tons of honey?

Mr. Newman said he should think that there had been a grand change in the state of affairs—that American honey-producing flowers, trees and shrubs had been transported to Switzerland, and that the increased demand for honey had been the cause of this change. Of this he should be glad, because even if the prices were reduced a little the universal demand would go far to compensate the producer. What we most earnestly desire is to hear a cry for more honey, coming up from every land, till all shall eat of it from the rising of the sun to the setting of the same.

Mr. Rochat-Reisser after speaking at length on the question, concluded with Mr. Newman, that honey should be put at such prices as to make it a regular article of food.

By request Mr. Newman gave a detailed description of the honey-producing plants of America, with their time of blooming. While the honey crop lasts there with a few interruptions from spring till fall, in Switzerland we have, except in a few choice locations, no second crop. In the Northern States of America, the winters are cooler and longer, than ours, thereby increasing the difficulties of wintering bees; the spring is also later and the summer warmer than ours, but the honey yield lasts longer, giving better results.

Several members expressed their appreciation of the linden tree, and would like to have their government select it to plant in the towns and by the roadsides and promanades.

Mr. Nouguier said that, before leaving the banquet-table, he desired to express the warm thanks of the Convention to Mr. Newman for his kind visit, and all the pleasure that he has imparted to the session by his interesting addresses and cordiality. The whole assembly then arose and gave three rounds of applause in honor of our American representative, and then followed it with a double three-times-three of applause in true Swiss fashion.

Several bee smokers were on exhibition, and Mr. Newman pointed out several defects in them, and remarked that the American bee smoker made by Mr. T. F. Bingham, gave a large latitude for the choice of materials to be used for making the smoke, viz: rotten wood, dry hard wood, split up small like large matches, brown paper in rolls, rags, &c., and Mr. Siebenthal, the maker of the smokers on exhibition has profited by these criticisms.

Indiana State Convention.

In response to a call, the bee-keepers of Indiana met at Indianapolis, on Tuesday, January 13th. President C. S. Schofield stated that the object of the Association was the advancement of the science of apiculture among its members. Mr. Ruick from the executive committee, reported a draft of the constitution and by-laws, which after some little changes were adopted.

The Secretary announced the books now open for the reception of new members, when about 60 persons were enrolled.

Mr. Hicks suggested the propriety of having a question box, for the purpose of bringing out any questions that members might want to have discussed, which was agreed to. He said he had been keeping bees for 27 years and only considered himself a beginner.

Dr. Moore objected to such assertions going out from this Convention, for he did not want to discourage beginners with the idea that it would take half a lifetime to become a bee-keeper. He had not been in the business half so long and he felt that he was far from being a beginner.

The balance of the morning was consumed in the discussions of the work of conventions, etc. The chair announced that the first thing after dinner would be the election of officers, when on motion the meeting adjourned to meet at 1:30 o'clock.

On re-assembling, the meeting proceeded to the election of officers. The names of Messrs. Bellman, Schofield, Peacher, Cotton and Hicks were placed in nomination. Mr. Bellman was elected, and on taking the chair made a few appropriate remarks. The Vice Presidents being next in order the following gentlemen were chosen, one from each congressional district.

2d. Geo. Drier, Green county.
4th. H. C. White, Jefferson county.
5th. J. M. Brooks, Bartholomew county.
6th. M. G. Reynolds, Wayne county.
7th. C. S. Schofield, Marion county.
8th. Geo. Small, Montgomery county.
9th. J. M. Hicks, Tippecanoe county.
10th. Mr. Gill, Pulaski county.
11th. Daniel Christie, Huntington county.
12th. A. G. Hill, Noble county.
1st, 3d and 13th were left to be filled by the chair.

Frank Dougherty was made Secretary and I. N. Cotton Treasurer, both by acclamation.

By resolution, the President, Secretary and Vice President of the 7th district were made the Executive Committee.

The Secretary then read a communication from the Michigan Bee-Keepers' Association, sending greetings to the Indiana Bee-Keepers' Association, which was received and placed in the minutes and the Secretary directed to return a like compliment. Several other communications were read and placed on file.

An essay from Rev. M. Mahin, of Logansport, was then read, and laid on the table for future discussion.

Then followed an article from Prof. G. W. Neihardt.

"Untested Queens," from A. G. Hill, in which he favored the so-called cheap queen business.

Mr. Hicks objected to queens being raised in nuclei. He said they were not so good as queens raised in full colonies and they were short lived, and did not think there was sufficient animal heat for full development.

The Secretary thought them good only when fully developed in a full colony, and given to the nuclei when just ready to hatch, or already so.

"Bee-keeping," by G. W. Hollenbeck was next, and after some discussion was passed.

"Our Society," by L. M. Wainwright.

"Artificial Swarming," was the next question for discussion.

Mr. Hicks did not believe it a good plan.

Mr. Brown divided his bees but always waited until they were about ready to swarm naturally.

Several plans were given for dividing, when the meeting was adjourned to meet at 7 o'clock.

On re-assembling Mr. Ruick offered the following resolution, which was passed unanimously:

Resolved, That no member shall speak more than once on the same question to exceed five minutes and then not until all who wish to speak have done so, except by permission of the house.

The next subject "Comb Foundation," was then called up, Mr. T. G. Newman, editor of the AMERICAN BEE JOURNAL, being present, was called upon to give his opinion. Mr. Newman said that comb foundation was one of the most useful inventions of the age, for the apiary. In fact he considered it next in importance to the

movable-frame, and, like other useful inventions, he could hardly see how we ever got along without it. Still there were some who opposed its use, but he believed all practical apiarists were using it to a great or less extent.

The meeting then adjourned to meet at 9 a.m., Wednesday, the 14th.

The meeting was called to order at 9 a.m., when Mr. Hicks offered an amendment to the constitution, pertaining to the organization of local societies in the several districts, which was accepted.

Mr. Moore wanted to hear something about sourwood, if it would grow in this part of the country, and if it would fill the gap between white clover and fall flowers, and where the seed could be procured?

Mr. Peacher said he had secured some of the seed from Prof. Stelle, of Georgia, as offered in the *Farmer*.

It was the voice of the Convention that it would grow in Indiana.

Mr. Row also made inquiries as to alsike clover, mellilot, etc.

Mr. Newman did not like the honey from sourwood; thought the gap could be filled by mellilot, which produced the very best of honey. Sourwood would grow in Illinois and Indiana.

Mr. Shaw thought we had better try to gather what honey we had now, than to spend our energies trying to fill the gap, for he did not think it could be done, as it came in the very hottest part of the season when plants would not secrete honey.

The subject of "Wintering Bees," was then taken up.

The President favored out-door wintering.

Mr. Hicks wintered in-doors.

Mr. Shaw did not think in-door wintering was so good in this part of the country as farther North; opinions seemed about equally divided.

Mr. T. G. Newman was then called on to address the Convention and consumed the balance of the morning session, after which he was tendered a vote of thanks for his able and instructive address.

The meeting then adjourned to meet at 2 o'clock. On calling the meeting to order the chair announced the first thing in order would be the election of delegates to the National Convention to be held at Cincinnati in October. F. L. Dougherty and Mrs. Cass Robbins were then chosen as delegates to said Convention.

From the question-box: "Will it pay to feed back extracted honey, for the purpose of having it put in the section boxes?" Answer, No.

Is comb foundation or natural comb best for use in the extractor? Answer, comb foundation.

Which is the most profitable, comb or extracted honey? Answer, extracted.

"Spring Management," was then discussed at some length, when Mr. Ruick called attention to an article in the *Farmer* in reference to premiums at the fair and offered the following resolution, that the Secretary of this Association be instructed to confer with the officers of the coming State Fair, in reference to offering premiums for the exhibits in the apiary department.

The exhibition of apiarian supplies was not so good as promised. Mr. J. H. Nellis, of Canajoharie, N. Y., sent some clamp and section boxes. Messrs. Lewis & Parks, of Watertown, Wis., had on hand a box of sections of all sizes, which were very nice; some of white-wood were much admired by members of the Convention. Mr. T. G. Newman had samples of all the late bee-books, smokers, honey-knives, etc. Mr. McDougall showed a couple of extractors and hives with surplus arrangements. The Society showed a hive with surplus arrangements, etc. Mr. Hicks had a hive on exhibition. At 4 p.m. the meeting adjourned, *sine die*.

FRANK L. DOUGHERTY, *Sec.*

N. W. Ill. & S. W. Wis. Convention.

The Northwestern Illinois and Southwestern Wisconsin Bee-Keepers' Association held their annual meeting at Literary Hall, in Davis, Ill., January 13th, 1880, and elected the following persons as officers for the ensuing year: H. W. Lee, President; R. M. Milliken, Vice President; Levi Keister, Treasurer; Jonathan Stewart, Secretary.

Considering the condition of the roads, there was a good attendance, about forty members being present. The hall, during the greater part of the session, was well filled.

Many questions relating to the subject of bee-keeping were discussed, but owing to the lateness of the hour several remained unanswered.

The Association passed the following resolution: "*Resolved*, That this Association thank the citizens of Davis for the kind hospitality extended to the members of the same."

It was resolved to hold the next annual meeting at Freeport, on the second Tuesday in January, 1881.

The Association then adjourned to meet on Tuesday, May 4th, at the residence of E. Whittlesey, Esq., near Pecatonica, Winnebago Co., Ill.

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In consequence of the dearth of small currency in the country, we will receive either **1, 2 or 3 cent stamps**, for anything desired from this office. We cannot use Canadian or other foreign stamps.

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Club names for the BEE JOURNAL may be sent to as many post offices as there are names in the club. Additions can be made to clubs at any time at the same rate. Specimen copies, Posters, and Illustrated Price List sent free upon application, for canvassing.

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Catalogues for 1880.—We have received the new Circulars and Price Lists of the following dealers in apiarian supplies; all of them are nicely printed:

Dr. J. P. H. Brown, Augusta, Ga.
I. S. Crowfoot, Hartford. Wis.
J. E. Moore, Byron, Genesee Co., N. Y.
Hiram Roop, Carson City, Mich.

Doolittle Hive.—We have received from Mr. I. A. Gooding, Peru, Ill., one of these hives, which he is making for the trade. It is nicely made, of good material, and painted. It was fully described in the JOURNAL last March.

Local Convention Directory.

1880.	*Time and Place of Meeting.*
Feb.	2—Southern Michigan, at Battle Creek, Mich.
	3—Fireman's Hall, Cortland, N. Y.
	11—Northeastern, at Utica, N. Y.
	13, 14.—Nebraska State, at Omaha.
May	4.—N. W. Ill. & S. W. Wis., at Pecatonica, Ill.
	25.—Northwestern Union, at Hastings, Minn.
Oct.	— —National, at Cincinnati, Ohio.
	5, 6.—Northern Michigan, at Carson City, Mich.
	14—Southern Kentucky, at Louisville, Ky.
Dec.	8.—Michigan State, at Lansing, Mich.

☞ In order to have this Table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

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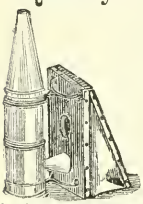

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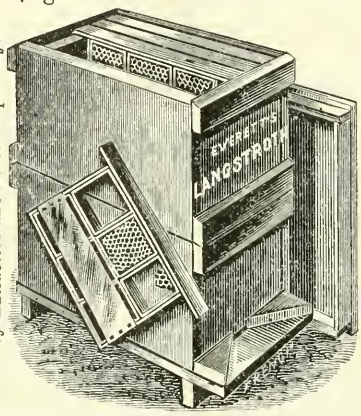


Apiarian Supplies, Italian Bees, &c., &c.

EVERETT BROS., 107 Monroe St., Toledo, Ohio.

BOKHARA CLOVER SEED.

We have received a lot of Imported Bokhara Clover Seed, which we can sell at 50 cents per lb. If sent by mail, 70 cents per lb.

THOMAS G. NEWMAN & SON, Chicago, Ill.

62 Gold, Crystal, Lace, Perfumed & Chromo Cards, name in Gold & Jet 10c. Clinton Bros. Clintonville, Ct.

CHEAP HIVES,

AND

CHEAP SECTIONS.

The **BEST** BEE HIVES, HONEY BOXES, SECTIONS, SECTION CASES, BROOD FRAMES, SHIPPING CRATES, Etc., for **the Least Money.**

We make the **LEWIS SECTION**, all in one piece—the **FINEST IN THE WORLD**; not only heretofore called the Lewis Section, but still known as the Lewis Section, and we are the sole and only manufacturers thereof in the United States, and the original inventors of the same. From fifty to one hundred thousand sold during the last three months. ☞ Send for Price-List.

LEWIS & PARKS,

12 Successors to G. B. Lewis, Watertown, Wis.

1865.— **THE** —1880.

HONEY HOUSE.

C. O. PERRINE, 54 Michigan Ave., Chicago.

Will buy at a fair price, for cash, any amount of

COMB OR EXTRACTED HONEY.

As a Manufacturer of

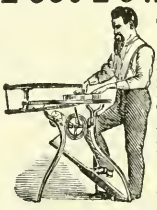
COMB FOUNDATION,

I can say my goods have given entire and universal satisfaction. The ruling low prices were made by me, and any one desiring any considerable quantity would do well to consult me before buying elsewhere.

☞ Market price for Beeswax.

Baker & Co. DESIGNERS AND PHOTO ENGRAVERS ON WOOD,
COR. CLARK & MONROE STS. CHICAGO.
DEALERS IN ENGRAVING TOOLS & ENGRAVERS OUTFITS.
ORDERS BY MAIL SOLICITED.

BARNES' PATENT
Foot-Power Machinery



CIRCULAR and SCROLL SAWS

Hand, Circular Rip Saws for general heavy and light ripping. Lathes, &c. These machines are especially adapted to **Hive Making.** It will pay every bee-keeper to send for our 48 page Illustrated Catalogue.

W. F. & JOHN BARNES,
Rockford, Winnebago Co., Ill.
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Advertisers will make money by advertising in the

WISCONSIN FARMER,

Published at FOND DU LAC.

The only agricultural paper in the State. Send for sample copy and rates of advertising. 12-2

STILL LIVING!

J. OATMAN & SONS

would call attention of all desiring supplies for their apiaries the coming season, to the fact that they are prepared to lend the trade in

DUNHAM FOUNDATION,

ITALIAN BEES AND QUEENS,

Modest and Langstroth Bee Hives,

Honey Boxes, Sections, &c.

Wax worked to order on Shares or for Cash.

Especial mention would be made of the fact that we bought **90 IMPORTED QUEENS of MR. POMETTA** last fall, and have them now wintering in full colonies, and will be pleased to book orders from all desiring a genuine Imported Queen **earlier** in the season than can usually be supplied. If you do not receive our Price-List by February 1st, write for it. Address your orders and communications to

J. OATMAN & SONS,
1 **Dundee, Kane Co., Ill.**

Our FLAT BOTTOM COMB FOUNDATION,

with high sharp side-walls, 10 to 14 feet to the pound, HAS BEEN USED the past season in FULL SIZE SHEETS in Surplus Boxes, adding LARGELY to the YIELD and to MARKET VALUE of the honey.

The wired foundation does not sag, and gives general satisfaction.

Circular and samples free.

This foundation is patented, and no infringements allowed.

J. VAN DEUSEN & SONS,
Sole Manufacturers,
1-6 **Sprout Brook, Mont. Co., N. Y.**

Full Colonies of Yellow Bees, in the best condition; honey by the barrel or less.
1-tf J. M. MARVIN, St. Charles, Kane Co., Ill.

The Michigan Homestead.

A PAPER FOR THE

Farmer and Family.

CHEAPEST AND BEST!

Address, **MICHIGAN HOMESTEAD, 54 Bates St., Detroit, Mich.** 1-2

Foundation Machines.

For the benefit of bee-culture, I will from this day sell my **12-inch Machines at $35.00,** and the **9-inch at $25.00.** The Machine gives full satisfaction, and needs no praise.

☞ Send for circular and samples.
1tf JOHN BOURGMEYER, Fond du Lac, Wis.

APIARIAN SUPPLIES.

As Cheap as the Cheapest,

AND

As Good as the Best!

4¼x4¼ section boxes, per 100, 50c...per 1000...$5 00
Prize boxes,..... " 70c... " ... 6 00

Good Colonies of Italian Bees, in 8-frame Langstroth Hives, in May, $8.00; 2 for $15.00; 10 and over, $6.00 each; after May, $1.00 less each colony. Take your choice at the price.

Tested Queens, from Imported Mothers, in May, $3.00; after May, $2.00. Untested Queens, in May, $1.50; after May, $1.00.

I have had 23 years' experience with bees in Langstroth hives, and 17 with Italian Bees and have been extensively engaged in the bee business for 11 years. I have now nearly 700 colonies. I have manufactured my own supplies for a number of years with steam power; though I have been engaged in other pursuits. I now intend to make the bee business and its connections a specialty. With my experience, and no other business to look after, I think I will be able to satisfy my customers in every particular.

Comb Foundation manufactured by the pound and on shares.

My facilities for shipping are such that orders can often be filled the same day they are received. To those who may favor me with their patronage, I will try and make it a mutual advantage to us both.

Cash must accompany the order. All my goods warranted.

Cash paid for beeswax. Honey bought and sold.

☞ Price List FREE.

I. S. CROWFOOT,
1-12 Hartford, Wis.

PURDY'S RECORDER

Best paper on fruit and flowers. ☞ Specimen **free.** *Speaks for itself.* Address PURDY, of Palmyra, N. Y.

PURDY'S SMALL FRUIT INSTRUCTOR.

Tells in plain, simple language how to plant and grow all kinds of Small Fruit for home and market; how to make a Dry-House; profits of the business; sorts, with description; how to market; manures; crates; different plans for growing; garden and market plans; soils, preparation, etc., etc. 64 pages *postpaid* for only **25c.** ☞ Postage stamps accepted. Also his Catalogue on

SMALL FRUITS

16 pages. **Very instructive. FREE TO ALL** applicants. Address PURDY, of Palmyra, New York.

HEADQUARTERS

FOR

EARLY ITALIAN QUEENS.

Imported and Home-bred. Full Colonies and Nucleus Colonies. For quality and purity of stock, it cannot be excelled by any in America.

If you want Queens or Bees, Hives, Extractors, Comb Foundation, Smokers, or Bee Fixtures of any kind, send for my new Circular. Address,

DR. J. P. H. BROWN,
1-6 Augusta, Ga.

Cyprian and Italian Queens and Nuclei.—A Descriptive Price List will be sent free.
1-3t JULIUS HOFFMAN, Fort Plain, Mont. Co., N. Y.

COFFINBERRY'S
Excelsior Honey Extractor

Sizes and Prices:

No. 1.—For 2 Langstroth frames, 10x18 inches...		$8 00
" 2.—For 2 American Frames, 13x13 inches....		8 00
" 3.—For 2 frames, 13x20 inches or less		12 00
" 4.—For 3 " " " "		12 00
" 5.—For 4 " " " "		14 00

Having made many improvements in the EXCELSIOR EXTRACTOR for 1879, it is now offered to the Bee-Keepers of America as the MOST PERFECT MACHINE in the MARKET. The universal favor with which the EXCELSIOR EXTRACTOR was received in 1878, has induced other manufacturers to adopt several of its improvements. My experience and experiments of last season, with the assistance and suggestions of skillful workmen, have enabled me to perfect an Extractor that **cannot be excelled, and can only be equaled by being closely imitated.**

Some of its advantages are as follows: It is made entirely of metal, It is light, but has attachments for fastening down to a platform. It can be instantly taken to pieces for cleaning, having no rusty screws to take out or nuts to remove.

The top or cross-band, to which is attached the gearing, is wrought iron, three inches broad, with the ends turned down in such manner as to thoroughly brace and strengthen the can and hold the basket firmly in an upright position.

The strong over-motion gearing, so necessary to ease in running and speedy operating, was designed and is manufactured expressly for the Excelsior. A child ten years of age can operate the machine as rapidly as it can be supplied with combs.

The Comb Basket having vertical sides, insures the extracting power alike for top and bottom of frames. The sides of the basket being movable and interchangeable, greatly facilitate the operation of dusting before and thoroughly cleaning after use.

It has a small comb-holder for extracting pieces of comb or partly-filled sections.

At the bottom of the can, and below the basket, is a cone or metal standard, in the top of which revolves the bottom pivot of the basket, thereby giving room for sixty or seventy pounds of honey without touching the basket or pivot below.

Nos. 3, 4 and 5, have neatly-fitting covers, movable sliding sides to the baskets, and movable strainers covering the canal to the faucet, whereby all honey can be drawn off without a particle of sediment.

The baskets of Nos. 4 and 5 have no center rod running from top to bottom, which will be found very convenient by those who uncap both sides of the comb before putting in the basket, as they can be turned without removal.

The wire baskets are very neat specimens of skillful workmanship, thoroughly braced at every point where experience has proven it to be most requisite, and nothing has been omitted that could add to its efficiency.

The No. 4, for **three** frames, has a triangular basket, movable sides, no center rod, runs smoothly regardless of number of frames, and is fast superseding the demand for four-sided baskets.

A LOWER PRICED MACHINE

being called for by those having but few colonies, and not making a specialty of bee-keeping, I have made a special size to take the Langstroth frame, and one for the American, to sell at **$8.00** each. These have no covers or strainer, and are smaller than the $12.00 and $14.00 sizes, but for the frames named are equal to the others for effective work, and are the **best cheap Extractors made.**

☞A liberal discount to dealers.

Address, **C. C. COFFINBERRY,**
Or **American Bee Journal, Chicago, Ill.**

CONNER, BURNETT & CO.,

165 South Water Street, Chicago,

General Commission Merchants,

MAKE SPECIALTY OF HONEY.

Refer to: Preston, Kean & Co., Bankers, Chicago; H. A. Burch & Co., South Haven, Mich. 10-tf

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Of the Agricultural Press!

THE WESTERN RURAL.

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The Best, Most Largely Circulated, and the Leading Agricultural and Family Weekly Paper.

It is conducted by a Practical Farmer. It is ably edited in all its departments. It is aggressive, progressive, and up to the times. Its Agricultural information is the latest, and is always reliable. It is quoted by the Press more extensively than any other paper of its class. It is always the Farmers' ally and most consistent exponent. It is the

ONLY "FARMERS' ORGAN,"

and the only consistent advocate of Cheap Transportation to the Sea-Board, and just and equal local railroad freights.

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Its great popularity and large general circulation are the best proofs of its practical character and substantial value. Enterprising, energetic and enthusiastic, it leads the Rural Press, acknowledging no rival, being pronounced, without exception the best Family as well as the Best Agricultural Paper. No one having a Farm, a Garden, a Domestic Animal, or a Fireside, should be without it.

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PRICE REDUCED FOR 1880.

Our former price was $2.00 per year. In order to keep pace with the times and place the WESTERN RURAL within the reach of all, we have

Reduced the Price to $1.65 Per Year

for single subscriber, or $1.50 per year in clubs of eight. For a club of four subscribers at $1.65 each, we will send an extra copy FREE to getter up of club.

A Local Agent wanted at every postoffice in the United States. Samples for canvassing free.

Address **The Western Rural,** Chicago, Ill.

Italian Queens or Colonies.

Eighteen years' experience in propagating Queen Bees from imported mothers from the best districts of Italy. Persons purchasing Queens or Colonies from me will get what they bargain for. Send for circular.

WM. W. CARY,

3-tf Colerain, Franklin Co., Mass.

100 ACRES PLANTED with **BERRIES.** **100** varieties of *Selected Fruits.* Plants grown for transplanting, and Fruit for the market. ☞ See **New Catalogue** for what sorts to Plant. **Sent free.** Address 10-3
JOHN S. COLLINS, Moorestown, New Jersey.
☞ Also **JERSEY RED PIGS,** all pure stock

PURE BEESWAX.

Bought at best market rates, and paid for promptly.
J. LEE SMITH & CO.,
1-6☜ 86 Beekman St., New York.

My Annual Catalogue of Vegetable and Flower Seed for 1880, rich in engravings from photographs of the originals, will be sent free to all who apply. My old customers need not write for it. I offer one of the largest collections of vegetable seed ever sent out by any seed house in America, a large portion of which were grown on my six seed farms. *Full directions for cultivation on each package.* All seed *warranted to be both fresh and true to name*, so far, that should it prove otherwise, *I will refill the order gratis.* The original introducer of the Hubbard Squash, Phinney's Melon, Marblehead Cabbages, Mexican Corn, and scores of other vegetables, I invite the patronage of *all who are anxious to have their seed directly from the grower, fresh, true and of the very best strain.* **New Vegetables a Specialty.**

12-4 JAMES J. H. GREGORY, Marblehead, Mass.

FOR SALE,

A SMALL FARM OF 30 ACRES, with a good orchard, house, and good well of water. Also, an **APIARY** that will be sold very low. **BEES** to sell at $3.00 to $6.00 per colony. Address,

BECKTELL BROS.,
3-4 New Buffalo, Berrien Co., Mich.

My Self-Hiving Apparatus

Will hive your bees, without your attention or assistance, and will not fail one time in one hundred. See American Bee Journal for January, 1880, page 56.

JOSEPH WILLIAMS,
2-tf Tates Springs, East Tenn.

SUBSCRIBE FOR THE

Bee-Keepers' Instructor,

A monthly devoted exclusively to Bee-Culture ; only **50 Cents a year.** Sample copy free.

Address, **SAMUEL D. RIEGEL,**
2-7 Adelphi, Ross County, Ohio.

BEFORE PURCHASING

supplies for your apiary, send a postal card with your name, and if you will do us the kindness, the names of your bee-keeping neighbors, for our illustrated catalogue of apiarian supplies of every description, sample section box and comb foundation. We wish to present them to every reader of this Journal, and hence offer them **FREE.** Please send your name at once. Special attention given to rearing Italian Queens and Bees.

☞ The highest price paid for Beeswax.

I-8 J. C. & H. P. SAYLES, Hartford, Wis.

Friends, if you are in any way interested in

BEES OR HONEY

We will with pleasure send you a sample copy of our

Monthly Gleanings in Bee-Culture,

with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Artificial Comb, Section Honey Boxes,** all books and journals, and everything pertaining to Bee Culture. *Nothing Patented.* Simply send your address on a postal card, *written plainly,* to A. I. ROOT, Medina, O.

WANTED A place to work in an Apiary. Have experience in handling bees, raising queens or honey. Best of references. Correspondence solicited. Address,

2-3 **C. SHERRICK,** Mt. Zion, Macon Co., Ill.

Quinby's New Bee-Keeping.

By L. C. ROOT.

The latest, most practical, and most fully illustrated work published. The press generally, and best bee-keepers everywhere, are recognizing the practical value of this work for all classes of bee-keepers. Price, by mail, **$1.50.**

Bellows Bee Smokers.

The Quinby Smoker has been upon the market four years longer than any practical smoker made. In 1879 it was much improved, and on March 11th a patent was granted it over all other Smokers, which fully protects all who buy, sell or use it.

Our circular for 1880 illustrates and describes the finest improvement ever made on Smokers. In excellence of material and workmanship we challenge competition. We make the only calf-skin bellows in the market. Price **75c., $1.25** and **$1.50.** By mail to all points, including Canada, 25c. extra. Our new circular will be of particular value to all who purchased Smokers prior to 1878.

For testimonials of books, specimens of illustrations, including the Smoker, and price-list of general bee-keeping supplies, address

2-12 **L. C. ROOT & BRO.,** Mohawk, N. Y.

YOU

Should Read Our

Apiarian Catalogue for 1880!

It will **PAY** you to do so. Write your name, and those of your friends who keep bees, on a postal card, at once, and direct it to

H. A. BURCH & CO.,

3 **SOUTH HAVEN, MICH.**

BEES FOR 1880.

We will furnish Full Colonies, Nuclei and Queens **CHEAP.** Satisfaction guaranteed. For circulars address, **S. D. McLEAN & SON,**
2-7 Culleoka, Maury County, Tenn.

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APIARIAN SUPPLIES!

Our facilities for manufacturing Hives, Crates, Sections, &c., are first class. Before ordering, tell us what you want ; we can do you good. We furnish Comb Foundation, Extractors, Smokers, Knives, &c. Queens, Nuclei and Full Colonies a specialty.

HIRAM ROOP,
2-tf Carson City, Montcalm Co., Mich.

FOR 1880.

Early Italian Queens, Nuclei and Full Colonies, in Langstroth hives or Transporting Boxes, and Poultry. Address, **R. M. ARGO,**
2-4 Lowell, Garrard Co., Ky.

Bee-Keepers' Supplies!

I shall continue to sell, at reasonable rates, a large variety of Bee-Keepers' Supplies, such as

MUTH'S ALL-METAL HONEY EXTRACTOR,

UNCAPPING KNIVES,

WAX EXTRACTORS,

LANGSTROTH BEE HIVES,

SECTIONAL BOXES,

SQUARE GLASS HONEY JARS,

to hold one and two pounds each, with Corks, Tinfoil, Caps and Labels, ½ lb. Tumblers, Glass Fruit Jars, &c.

COMB FOUNDATION,

BEESWAX, GLOVES, VEILS, STRAW MATS, ALSIKE CLOVER SEED,

as well as a great assortment of Garden and Field Seeds, &c. For further particulars address,

CHAS. F. MUTH,

2-tf 976 and 978 Central Ave., Cincinnati, Ohio.

CANADA BEE-KEEPERS,

Send for my Circular of Apiary Supplies for 1880, giving prices of Hives, Extractors, Comb Foundation, Bee Smokers, Bee Journals, etc.

M. RICHARDSON,

1-4 Box 212, Port Colborne, Welland Co., Ontario.

COLORADO COLONIST,

Full of Agricultural information about Colorado—8 pages. Send for it. **50c. per annum.**

☞ Parties forming colonies are especially invited to correspond with us. Address,

1-3 W. E. PABOR, Box 2657, Denver, Colo.

BOKHARA CLOVER SEED.

We have received a lot of Imported Bokhara Clover Seed, which we can sell at 50 cents per lb. If sent by mail, 70 cents per lb.

THOMAS G. NEWMAN & SON, Chicago, Ill.

This remarkable medicine will cure Spavins, Splint, Curb, Callous, &c., or any enlargement, and will remove the bunch without blistering or causing a sore. No remedy ever discovered equals it for certainty of action in stopping the lameness and removing the bunch. Price $1.00. Send for illustrated circular giving positive proof, and your nearest agent's address. **Kendall's Spavin Cure is sold by Druggists,** or sent by Dr. B. J. Kendall & Co., Enosburg Falls, Vermont.

FULLER & FULLER, 22 Market street, and VAN SCHAACK, STEVENSON & CO., 92 Lake street, Agents, Chicago, Ill. 8y1

1865.— **THE HONEY HOUSE.** —1880.

C. O. PERRINE, 54 Michigan Ave., Chicago.

Will buy at a fair price, for cash, any amount of

COMB OR EXTRACTED HONEY.

As a Manufacturer of

COMB FOUNDATION,

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COR. CLARK & MONROE STS. CHICAGO.

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☞ Postage stamps accepted. Also his Catalogue on

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Foundation Machines.

For the benefit of bee-culture, I will from this day sell my **12-inch Machines at $35.00,** and the **9-inch at $25.00.** The Machine gives full satisfaction, and needs no praise.

☞ Send for circular and samples.

1tf JOHN BOURGMEYER, Fond du Lac, Wis.

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Wax worked to order on Shares or for Cash.

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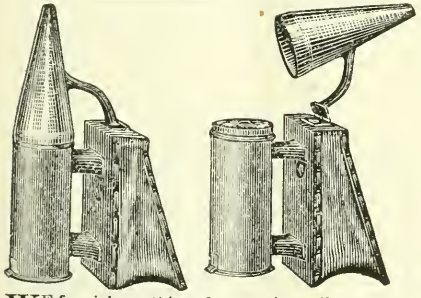


WE furnish anything, from a wire nail to a steam engine. For bottom prices on Implements and Supplies used in Bee-Culture, send for our Illustrated Descriptive Catalogue. It will tell you all about Scovell's Eureka Cold-blast Direct-draft Bee Smoker. Catalogue free—send for it. Address,

SCOVELL & ANDERSON,

3-8 Columbus, Cherokee County, Kansas.

FOUR DAYS AND NIGHTS WITH

THE SPIRITS,

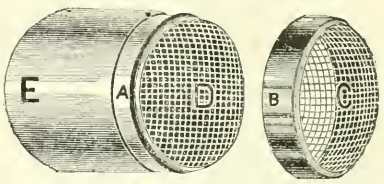
AT MOTT'S, MEMPHIS, MO., being an exposure of the **HUMBUG** by which thousands are being swindled. This book of 40 pages, 5x7 inches, will be sent by mail for 25 cents in stamps. Address, **D. D. PALMER**, New Boston, Ill., Originator of the

SWEET HOME

Raspberry; 1,050 berries picked from one cane. Never winter kills. The largest and best black cap.

Send for Circular. 3-tf

100 ACRES PLANTED with BERRIES. **100** varieties of *Selected Fruits.* Plants grown for man-planting, and Fruit for the market. ☞ See **New Catalogue** for what sorts to Plant. **Sent free.** Address 10-3
JOHN S. COLLINS, Moorestown, New Jersey.
☞ Also **JERSEY RED PIGS**, all pure stock



The New Mailing Queen Cage,

And all kinds of

APIARIAN SUPPLIES,

Manufactured or kept for sale by

J. L. HARRIS,

WHEELER, IND.

Be sure to send for my new Circular. 3-tf

CHEAP HIVES,

AND

CHEAP SECTIONS.

The **BEST** BEE HIVES, HONEY BOXES, SECTIONS, SECTION CASES, BROOD FRAMES, SHIPPING CRATES, Etc., for **the Least Money.**

We make the **LEWIS SECTION**, all in one piece—the **FINEST IN THE WORLD.**

We will sell our No. 2, or second quality hives, at 20 cents per hive less than our first quality. Our Price List gives prices of our No. 1 hive only.

☞ Send for Price-List.

LEWIS & PARKS,

12 Watertown, Wis.

Headquarters for the Best Queens & Colonies

IN THE UNITED STATES.

As I make Queen-rearing a specialty, I guarantee to those ordering from me, just what they bargain for. ☞ Circulars free. Address,

D. A. PIKE,

2-5 Box 19, Smithsburg, Washington Co., Md.

THE BRITISH BEE JOURNAL,

AND BEE-KEEPER'S ADVISER.

The *British Bee Journal* is published monthly at $1.75, and contains the best practical information for the time being, showing what to do, and when and how to do do it.

C. N. ABBOTT, Bee Master,
School of Apiculture, Fairlawn, Southall, London.

Italian Queens or Colonies.

Eighteen years' experience in propagating Queen Bees from imported mothers from the best districts of Italy. Persons purchasing Queens or Colonies from me will get what they bargain for. Send for circular.

WM. W. CARY,

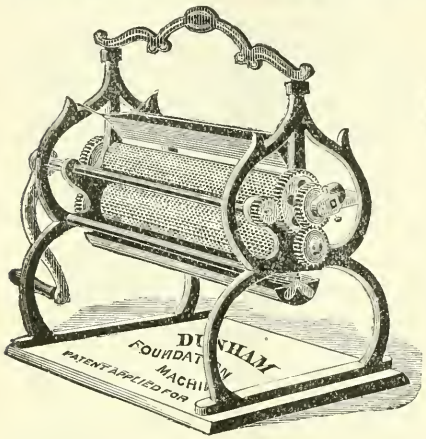
3-tf Colerain, Franklin Co., Mass.

PURE BEESWAX.

Bought at best market rates, and paid for promptly.

J. LEE SMITH & CO.,

1-6¶ 86 Beekman St., New York.



FRANCES DUNHAM,

Inventor and Sole Manufacturer of the

Dunham Foundation MACHINE.

12	inch	rolls	$57.00
9	"	"	38.00
6	"	"	27.00
4	"	"	19.00

Dealer in

All Articles Necessary in the Apiary.

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Dunham Foundation a Specialty.

☞ Circular and Samples free.

DEPERE, BROWN CO., WIS. 2-6

CANADA.

Brother Bee-Keepers: I will have my **NEW COMB-REVERSING EXTRACTOR** (extracts both sides by reversing machine), ready for the market in March. Also, a full assortment of the best Apiary Supplies cheaper than ever.

☞ Descriptive Catalogue sent free to any address.

W. G. WALTON, Hamilton, Canada.

N. B.—For the convenience of American Bee-Keepers, I have completed arrangements with parties in Buffalo, N. Y., to manufacture my Extractor for the United States. 2-7

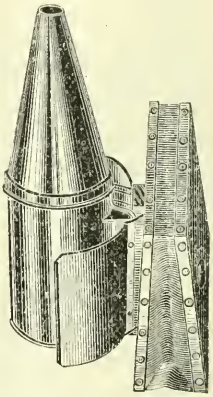
Land in Florida for Sale.

Timber Land in Northern Florida—640 acres—about 50 miles south of the Georgia line, 25 miles west of Tallahassee, and near the Apalachicola river. Title clear and unincumbered. Will sell cheap for cash, or trade for a farm, apiary or other property. Address, with particulars, FLORIDA LAND, care AMERICAN BEE JOURNAL, Chicago, Ill.

THE ORIGINAL DIRECT-DRAFT OR

BINGHAM PERFECT SMOKER.

Patented Jan. 9, 1878. Re-issued July 9, 1878.



If you buy a Bingham Bee Smoker you are sure of the best and cheapest, and that you are not liable to prosecution for its use. The largest and most scientific bee-keepers use Bingham Smokers, some using as many as fifteen in their various apiaries.

No Bingham Smoker has ever been returned. No letter has ever been received complaining that our Smokers did not give entire satisfaction: but we have received hundreds of letters expressing the most unbounded satisfaction and appreciation of our invention.

The Extra Large Smoker and the Extra Standard for 1880, will have our new extra wide shields, which entirely protect the hands and bellows from heat and remove the danger of burning the fingers. Practical bee-keepers will find these wide shields an important improvement. The Plain Standard and Little Wonder Smokers will be better than ever before, and superior to any imitation smokers, whatever their size may be.

Hundreds of them have been in constant use three seasons, and are now as good as new. One dollar and a half is not much for the use of such an instrument three seasons; is it?

BINGHAM & HETHERINGTON

HONEY KNIFE.

Patented May 20, 1879.

It is a large, strong, durable knife, polished and tempered like a razor, and so formed and sharpened as to cut both ways, over hills and through hollows all the same, without dropping a cap on the honey. The most world-renowned, practical and scientific Bee-Keepers in Europe and America pronounce it "the best Honey Knife ever made."

Extra Large Smokers	2¼ inch,	$1 50
Extra Standard Smoker	2 "	1 25
Plain Standard Smoker	2 "	1 00
Little Wonder Smoker, $3.00 per half-dozen; each	1¾ "	75
Bingham & Hetherington Knife		1 00
Bingham & Hetherington Knife and Cap-Catcher		1 25

If to be sent by mail, or singly by express, add 25 cents each to prepay postage or express charges.

☞ Send for circular. If to sell again, apply for dozen or half-dozen rates. Address,

2-9 **T. F. BINGHAM,** or **BINGHAM & HETHERINGTON, Otsego, Mich.**

THE AMERICAN

BEE JOURNAL

Devoted Exclusively to Bee Culture.

Vol. XVI. CHICAGO, ILLINOIS, MARCH, 1880. No. 3.

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Editor's Table.

☞ It is not safe to send silver by mail, even by registered letter, as it is very liable to be lost. The postoffice department is not responsible for money sent by registered letter, as many people suppose; they guarantee to deliver the letter, but are not responsible for its contents. We recently knew a case where a registered lettter, containing silver, was properly delivered, but the envelope was broken and a part of the contents missing. A money order is perfectly safe. Where it is inconvenient to get such, send 3c. postage stamps.

☞ In answer to an inquiry we would remark that honey is the *natural* food for bees. As considerable feeding will be necessary this spring we would say give them honey if it can be obtained, if not, make a syrup of coffee A sugar. See that they have sufficient to carry them through till fruit bloom.

☞ In acknowledgment of his services in fruit and bee-culture His Majesty, the Emperor of Austria, has presented to Herrn Karl Gatter, Vice President of the Vienna Bee-Keepers' Society, and editor of the *Bienen-Vater*, the golden cross of merit.

☞ Messrs. Jones and Benton arrived in London, England, on February 4th, on their way to the Island of Cyprus.

☞ The prices of glass, honey jars, extractors, separators and many other things are advancing.

Duty on Honey.—The duty on honey imported into Belgium is about $1.25 per 100 lbs. In Germany it is about $1.00 per 100 lbs. In France such a duty has been advocated, but Mons. Hamet, editor of *L'Apiculteur* has taken a strong position against it. He says that such a duty would have a tendency to retard its use; that such should not be countenanced at all. If it was protected by a duty, its home price would be increased, and that would drive it out of the markets, discourage bee-keeping and destroy a source of capital.

Albinos.—Mr. L. A. Lowmaster, of Belle Vernon, O., sent us a specimen of his Albino bees, but they were so much broken up (being enclosed in a letter) that we cannot describe them. Mr. L. describes them thus: "their heads in color approach nearer a purple than that of the Italian; beginning at the waist, they have first three distinct yellow bands, then three distinct white bands; the white is pure—not muddy or dirty; the wings are finer and of a brighter color than those of the Italian. I have found them to be better honey gatherers and more gentle than any other race of bee I have ever possessed. The queens are very prolific."

☞ Clouet and Ritter, professors of chemistry, working separately, have each discovered that all commercial grape sugar contains arsenic in small quantities. The source of the arsenic is the sulphuric acid employed in its manufacture.

Catalogues.—We have received new catalogues of apiarian supplies from the following: J. Oatman & Sons, Dundee, Ill.; Oldham & McBeth, Reynoldsburg, O.; J. H. Thornburg, Winchester, Ind.; J. M. Brooks & Bro., Columbus, Ind.

☞ A letter from Herr Karl Gatter, of Vienna, Austria, remarks that it has been very cold there, this winter, for bees, and that mice have been exceedingly troublesome to the apiarists.

☞ By the Anglo-American *Times* of London, dated Jan. 30, 1880, we learn of an accident to Mr. W. M. Hoge's little boy. While Dr. Deems, pastor of the "Church of the Strangers, of New York," was in conversation with Mrs. Hoge, they heard a scream. The Doctor ran through the hall, down the stairs, and made his way to the kitchen where he found Mr. Hoge's little three-year old boy who had been left alone for a moment by his nurse enveloped in flames. Stripping off his coat with great presence of mind the Doctor wrapped it around the little fellow and thus smothered the flame and saved the child. Dr. Deems said he knew very well his letter of credit and excursion tickets to and from the first cataract were in the inside pocket of his coat, but he never faltered a moment on this account. The fire was extinguished before it had gained much headway, we are happy to say.

☞ Mr. J. O. Todd, Richmond, Iowa, says he noticed on Feb. 8th, a number of drones in his colonies and wants to know the cause of drones being raised so early. Probably the queen is old or otherwise not desirable to the bees; being desirous of rearing another, and judging by the fine weather of January that spring had come, they made early preparations to carry out their design of superseding the queen.

☞ Some time ago, we found a small bottle on our shelves containing some excellent drones. We were at a loss to know where they came from, but we have since learned that they were left there, at the time of the National Convention, by Mr. James M. Marvin, of St. Charles, Ill. He is to be congratulated upon having such fine stock.

☞ The *Societe d'Apiculteur de la Somme* are about to publish an illustrated report of the apiarian department of the Paris Exposition of 1878. It will contain 150 engravings and will be published in two parts. Price, 25c. each.

Queen Bees in the Mails.

Prof. Cook has sent us the following explanatory article and letter of the Assistant P. M. General, with the rulings of the department on this very important matter. Prof. Cook remarks: "We cannot 'hold the fort,' unless shippers practice great caution. If we should once more lose the permit to use the mails for this purpose, it would be useless to make a second appeal. No cage that contains honey or one that is not made with the *double wire screen* should be used by any one. Bee-keepers must now act as their interest dictates."

A few years since the postoffice department refused the use of the mails for this purpose. There were doubtless good reasons for this order. Honey was placed in the boxes to serve as food for the bees during their transit. Often, owing to the kind of food and carelessness in the method of placing it in the shipping cages, the honey escaped and daubed the mails, greatly to the vexation of the mail agents and owners of the mail. Nor was this the chief grievance. Owing to the faulty cages the agents were frequently stung by the bees, while many others who saw the bees just behind a single wire gauze suffered nearly as much from a perhaps not wholly causeless fear that they might be.

This ruling of the postoffice department was felt to be a severe blow to this important industry. The expense of transportation was not only much increased, but frequently in thinly settled sections, where express offices were still strangers, it was fatal to the introduction of improved bees.

Editors' state associations and individuals all besought the postmaster general to rescind this order, which worked so serious an injury to the bee-keeping interests of the country, but urged in vain.

At the last meeting of the National Bee-Keepers' Association a committee was appointed with Prof. Cook as chairman to make an appeal in person to the postoffice department. Prof. Cook represented to the department the magnitude of the bee interest in the United States, the superior excellence of Italian bees, and the consequent importance that they should be freely imported into every state and county. He also showed how serious an obstacle the ruling of the postoffice department was, especially in the west and south, where a limited population made express offices rare and distant. He further demonstrated that, while the methods of shipping in the past might have been attended with injury and inconvenience, the improved methods and shipping cages of to-day were of such a character as to obviate these objections. Cages were presented for inspection, which contained *sugar as a feed for the bees* and a *double wire screen, the gauze surfaces being one-fourth inch apart*, so that no bee could sting the person who might handle the cage.

After due consideration, the department addressed the following communication to the Hon. Edwin Willits, representative from Michigan, who deserves the thanks of all bee-keepers for his interest in the matter and his efforts to secure a favorable decision:

POSTOFFICE DEPARTMENT,
OFFICE OF THE FIRST ASS'T P. M. GEN.,
Washington, D. C., Jan. 14, 1880.

Hon. Edwin Willits, M. C., House of Representatives, Washington, D. C.

SIR—The postmaster general having heard the statements of the representatives of the Bee-Keepers' Association respecting the ruling of the department which excludes queen bees from the mails, and having become satisfied that such ruling is seriously affecting an interest rapidly assuming large proportions, which interest in many localities is practically denied the use of any facilities of intercommunication, has consented to a temporary suspension of the ruling.

Instructions will be given in the next number of the United States official postal guide to carry this decision into effect. It is suggested that the bee-keepers of the United States be informed through the various bee-keepers' associations that the length of time this suspension will continue in force will depend entirely upon the fact that no harm shall result to any persons engaged in handling the mails, from the transmission of queen bees and their necessary attendants, and the necessity which exists therefore for the adoption of a box or cage which shall conform as far as possible to the provisions of section 223 of the laws and regulations, with the additional security of a **double wire or perforated tin screen for cover**, after the manner of the one submitted by Prof. Cook, the representative of the National Bee-Keepers' Association.

Very respectfully,
JAMES H. MARR,
For First Assistant Postmaster General.

Thus it will be seen that this important concession is provisional. We would strongly urge upon all breeders and shippers of queens to use only such cages as are indicated above, if they send through the mails. These cages can be sent through the mails for 2c. Any person who will endanger the continuance of this privilege by mailing queens fed with honey or without a double-wire screen, is doing serious damage to the bee business and should be quickly exposed by those who receive them. With reasonable care we may rest secure in our present advantage.

☞ We have received from Mr. J. E. Moore, one of his new section boxes with the perfection caps. It makes a very neat and attractive package, when glassed.

Interesting Letter from France.

Mons. L. Jonas, Secretary of the *Societe d'Apiculteur de la Somme*, has written us a long letter dated Jan. 16, 1880, in which he says:

"Since 1816, we never heard of such floods and such cold weather as we have had during the past season. Last summer the flowers gave water instead of honey, and after such an exceptional summer we now have a disastrous winter, when we were least prepared for it. Our loss of bees is at least 75 per cent. I was fortunate, many of my colonies are depopulated, but none are dead yet. I fed them in October 10 lbs. of honey to each colony.

"At our 5th General Assembly just held, you were unanimously made an honorary member of our Society, and our American correspondent, which I trust you will accept. All the members present recognized that your able AMERICAN BEE JOURNAL was very interesting—in fact, that it is the best journal in that line published in the whole world. In that respect, America surpasses to a high degree the European Continent. Many of our people speak and read the English language, and we have devoted some time in our General Assembly to read and discuss the most interesting portions of your JOURNAL. We have also decided this year to give in our *Bulletin d'Apiculteur* a digest of the JOURNAL for each month. We have been slow and obstinate in France, but we are determined now to take a "progressive step" in "scientific apiculture."

☞ A correspondent asks us to state in the BEE JOURNAL the condition of the European markets as to honey. There is no honey in the comb there, worth mentioning; and the markets are but meagerly supplied with extracted honey. Comb honey sells at satisfactory prices, but the losses in breakage, commissions, fees, &c., are quite heavy. To show the growth of the export business in honey, we quote from Messrs. Thurber & Co.'s circular: "In 1877 there were only 1,855 barrels of American extracted honey received in England; in 1878 it reached 10,245; in the past year it grew to 16,611 barrels, from Jan. 1, to Dec. 31, 1879, and the entire stock on hand there now is only 1,100 barrels.

Destroyed by Fire.—We are sorry to state that on January 31st, Mr. B. O. Everett lost his residence and all its contents, by fire. Owing to a strong wind, in 20 minutes there was nothing left of the house, and the family were rescued with but such clothing as they were clad in at the time. The fire occurred about 8 p.m., and his two little girls, who were in bed, were rescued in a comforter, which caught fire from a spark, and again threatened the lives of the children. A ton of honey, and $1,000 worth of apiarian supplies, were also destroyed. Mr. Everett had just issued his circular price lists for 1880, and had them about ready for the mails when they were destroyed, together with the list of names to whom they were to be sent. As Mr. Everett has lost his books and accounts, those knowing themselves indebted to him should lose no time in sending him the amounts due. Mr. E. says he has lost all his "capital, but pluck," &c., and cannot, therefore, now issue a circular to his customers. We would direct especial attention to his advertisement on page 156, of this JOURNAL.

☞ The editor of *L'Apicoltore*, Milan, Italy, speaking of the "improvement of the Italian bee," says: "The American and German bee-keepers follow the laws which lead to the preservation and improvement of every kind of animals, as was proved to us by the Italian bees exhibited to us by Mr. T. G. Newman, editor of the AMERICAN BEE JOURNAL on his recent visit. They were the prettiest bees that we ever saw."

☞ We regret to learn that Mr. F. F. Collins, of Texas, has lost all his bees by foul-brood.

☞ A wealthy man in New York has offered a large amount of money for the best draft of an act prohibiting food adulteration. This is what is needed; it should be general, not special; and applicable to every State and Territory.

Bees Marking their Location.

Mr. F. W. Karnatz, the superintendent of one of the Chicago parks, says that in March, 1864, he was living in Goslar, Hanover. A friend having presented him with several colonies of bees in straw hives, he placed them in a corner of his garden and built a shed over them. Several days after this he removed the hives to another place, but the bees returned to the old location, and clustered. He saw it, and went to the spot and while standing, looking at them and meditating as to what he should do with them, they clustered under his coat. He took them to their new location, shook them down in front of the hives and they remained. He wants to know why they should have thus clustered under his coat? In all probability when Mr. Karnatz first placed the hives there, he stood admiring his new friends as they came out of the hives. In marking their location they marked him; the little fellows, upon finding themselves homeless wanderers, not having re-marked their *new* location, and discovering Mr. K. standing, perhaps, in the same spot, and "meditating" upon the scene, they clustered upon his person. When he took them to their hives and shook them down in front, they joyfully accepted the situation, re-marked that location, and pursued the even tenor of their way.

☞ We have received a six-inch comb foundation mill from C. Olm, whose advertisement may be found on another page. It is one containing all the latest improvements. The samples of comb foundation made on it are equal to any, and the price is only $15. It has double gearing, making it stronger and more durable, and capable of standing any ordinary strain to which it may be subjected, and the crank may be turned either way without injury. The rolls are so "cut," that the foundation has no "weak" way as did the first machines made. It is exactly alike, no matter which way it is run through the machine. The rolls are "cut" by a new process, which makes all rolls exactly alike, so that, should one roll become damaged a new one can be substituted and will work exactly right. At least this is what Mr. Olm claims for the new process.

Peet's Queen Cage.—Mr. T. O. Peet has sent one of his Combination Queen Cages, which he has designed for shipping and introducing queens. Mr. Peet says: "Please examine it, and also the method of putting up for shipment through the mails, as it forms a double-wall, as required by the new law. We think it is just the thing—what do *you* think of it?"

We will cheerfully give our opinion. In the first place, it contains a bottle, and as glass is unmailable in any shape, that will not do.

In the second place, the new ruling of the postal department requires it to have "DOUBLE WIRE OR PERFORATED TIN screen for cover, after the manner of the one submitted by Prof. Cook." Mr. Peet's has only *one* wire screen and is enclosed in a perforated paste-board box. To attempt to use such, will subject us to another reverse ruling of the postal department.

Mr. Peet's cage is nicely made, and but for the new requirements of the postal authorities, would be a first-rate thing. It is to the interest of all to be particular not to endanger the newly-acquired advantage of using the mails for transporting queens. Mr. Peet will see this point, at once.

As there is no patent on the cages approved by the department, and all are at liberty to make them, who choose to, why take any risks, by attempting to use others? We can see no good reason for so doing. Attention is directed to the letter of the Assistant P. M. General on another page.

☞ We are wintering over quite a number of the Pometta imported queens. Those who want them early, can be accommodated from the JOURNAL apiary.

Apiculture in India.

An interesting description of "bee-houses" and "swarming," as practiced in India, is given by a correspondent of the *Agricultural Gazette*, of London, England, who remarks that bee-keeping is the sole business of some whole villages. He describes the bee-houses in use there as follows:

"They are framed of wood, leaving in the walls open spaces of about 2 feet high and from 10 to 12 feet long, which are subsequently filled up with stones and clay, after which the whole is plastered inside and out, with a preparation of gypsum, which is found in abundance in the hills. The roofs are flat, of beaten clay, and the eaves project about 3 feet beyond the walls. As the whole weight of the roof rests entirely on the wooden framework, the stones and clay, with which any one of the spaces is filled, can at any time be removed and replaced without at all interfering with the stability.

In each of these spaces, particularly in the walls facing the south, is placed one or more round earthenware waterpots, the height of which ought to be equal exactly to the thickness of the wall; these are built into the wall lying on either side, with the round bottom outside, and its extreme convexity flush with the outside of the wall; whilst the mouth of the vessel, which is 6 or 8 inches in diameter, is flush with the wall in the inside of a room; in some houses there is as many as 40 of these waterpots thus imbedded. All that is now wanted is to make a small hole on the outside convex bottom of each waterpot for the bees to enter—stick on a small patch of clay below it for them to alight on—put in a swarm and close the mouth of the pot with an earthenware lid made to fit. When honey is to be removed, all that is required is for the operator to enter the house, close the door, tap on the lid of the pot to drive out the bees, or, if that is not sufficient, open the lid a little and blow in two or three puffs of smoke from a lighted rag, then open the lid fully and remove as much of the honey as may be deemed expedient, after which the mouth of the pot is reclosed, and the bees soon return and go to work again. As the houses are occupied by the family as well as the cattle of the owners, and in winter pretty constant fires are kept up, the bees, no doubt, benefit by the heat.

Besides these hives, which are never killed off, each house generally has a large number of others, the result of swarming, which are managed in a different way. For these a hive is prepared thus: A piece of the trunk of a pine or cedar tree, of about 18 inches in diameter, is cut to a length of 2½ feet; this is split down the middle, and each half hollowed out in the center, so that when rejoined there is a considerable space inside. A hole is made in one of the halves for the bees to enter; and a swarm having been secured, it is lodged in the hollow log, the two parts of which, having been securely tied together, are then hung up close under the projecting eaves of the house and well out of the reach of bears, which are numerous in the district, and are very partial to honey.

Foul Brood.—Mr. Jas. Shearer, of Cairnie, Scotland, remarks concerning the present prospect for bee-culture, that "not one colony in fifty will survive the winter without food, and it is also feared that foul-brood is more than commonly prevalent. I have one colony affected. I have never before seen it or had it in any of my hives. In ordinary thriving colonies there are three different substances to be seen in the cells—namely, honey, pollen, and young bees. In the case I refer to now, there is a fourth substance, and when the lid is taken off the cell there can be taken out a sticky brown stuff. It appears here and there in a hive, and is the worst disease that affects bees."

☞ Dr. W. W. Hipolite, of DeVall's Bluff, Ark., the Vice President of the North American Bee-Keepers' Association, whom the Little Rock *Democrat*, calls "the Honey King of Arkansas," has just delivered an able address before the White River Medical Society at Brinkley, Ark., a copy of which is on our desk.

☞ Mr. A. Holly, Girard, Mich., has sent us a bellows for a smoker, as made and used by him last summer. Its peculiarity being that it has two inclined pieces of wood where the leather is used in the ordinary bellows, and it has a double valve. It is added to our Museum.

Correspondence.

For the American Bee Journal.

The Dollar Queen Business.

G. M. DOOLITTLE.

What is the trouble, that we hear so many complaints of the queens which are sent out by those selling dollar queens, being so short lived? Right here we wish to say that the queen is of more consequence to the apiarist, than all other subjects connected with bee-culture, because the queen is all there is of bee-culture; for without the queen we could have no bees, and if we had no bees, of what consequence would articles on wintering bees, hives, surplus honey, etc., be to us? So, then, if we fail to have good queens, or by our mode of rearing them we are producing queens that are deteriorating, instead of growing better, we are in just that proportion making a failure of bee-keeping. But to return. A correspondent writes thus (which is only the substance of many letters we get): "Last week I found 3 dollar queens dead in front of their hives. This leaves but 2 out of 6 introduced in November. The season before, out of 3 introduced in November, I had 1 left in the spring, and she failed in June. That season the 3 cheap queens cost me 2 good colonies of bees, and the other did no good." Here we have a report of 7 out of 9 queens which did not live a year from the time they were hatched, while those in our apiary live to an average of 3 years, and we have now and then one that lives 5 years.

How are these queens reared that do not live a year on an average? The plan, as given by the main instigator of the dollar queen business, is this: Take a frame of comb containing eggs, and place in a hive that has been previously filled, or partially so, as the case may be, with empty combs, and place it on the stand of a colony after having moved the colony to a new stand. Thus we see that the bees that are to rear these bees are all old, or field bees, and are wholly unfit to feed and nurse the embryo queens; at least this is our experience. When a colony is in a normal condition, these old bees do not feed the young brood, but it devolves on the bees that are from 1 to 12 days old, to do the work of preparing the food for the larvæ. By the plan above given the old bees, with their wings all worn with the toil of the fields, are obliged to become young again as it were, and try to prepare the royal jelly for the queen they must have or perish. Is it any wonder that such queens do not average to live a year? Dear reader, such queens are reared for the *dollar* they will bring, and for nothing else, by the majority of those rearing them. To illustrate: Last summer I wrote to a prominent queen-breeder for some dollar queens, and received a reply like this: "We are shipping dollar queens all the time, but as we are desirous of your good opinion, we would like to rear some for you when we rear our own, which our partner is now preparing to do. If you can wait, we should be happy to have you do so." Of course we waited, and in due time the queens came. The point we wish to get at is this: If the queens that are sold for a dollar each are just as good as those reared by natural swarming, or are all good queens, why rear those for their own use, or for the good opinion of a select few, in a different manner?

I venture the assertion, that if a queen reared under the swarming impulse is worth $3.00, one reared from the same mother as dollar queens are generally reared, is not worth over one-third as much, and the chances are that they will turn out as did the 9 our correspondent purchased. Thus, under the dollar queen system of queen-rearing, we are not improving our bees, but, on the contrary, are retrograding.

Our plan of rearing queens is this (and after the results of the past 7 years we have no reason to discard it): In the spring we select the colonies having the queens giving us the best results the season previous, and as early as possible get them strong in numbers. If we can do this in no other way, we give them brood from other colonies; but by a judicious spreading of the brood the object can generally be attained without help from other colonies. So we get them to swarm in advance of the rest, thus getting our cells or queens reared just as the bees used to rear them when they first came from the hand of the great Creator, and He pronounced them good. These cells we give to nuclei, which are formed to suit the requirements of the cells, and by the time we wish to use queens in the spring, we have queens that are just as good as those reared by any other method, and, we think, a little better. If we wish a further lot of cells from the same mother, we put the colony containing her in a hive filled with empty combs, and in two or three days, when she gets well to laying, we take away one-half of the empty combs, and put in place thereof frames of mostly sealed brood, from other hives, and in about 15 days

thereafter we get another swarm with the same queen, and, of course, a fine lot of cells. So we keep on till the swarming season is over. Thus, by a selection of the best queens each year, and rearing them by the best plan, our bees may be improving instead of retrograding.

In conclusion we would say, as at the beginning, that all other things are of minor importance when compared with the queen. So let us, as apiarists of America, hold the standard of excellence so high that when we come to look back over the next decade of years, we can see we have made a grand advance.

Borodino, N. Y., Feb., 1880.

For the American Bee Journal.

Extracted Honey vs. Adulteration.

A. B. WEED.

The question whether to raise comb or extracted honey, is an important one to the bee-keeper. He is sometimes so circumstanced by the condition of his hives, that either one kind or the other is the more profitable for him to raise. In the October number of the BEE JOURNAL of last year, Thurber & Co., on page 448, say: "We earnestly hope, for the sake of the best interests of the bee-keeping community, that you will take time by the forelock and work up a greater interest in the production of extracted honey." They also "warmly recommend the great mass of honey producers to work their apiaries for the exclusive production of extracted honey." This is said with reference to a certain condition of the English market, but still it shows the importance of this form of honey, and the high esteem in which it is held abroad.

On page 547 of the JOURNAL for Dec., 1879, your correspondent "Louisianian," says that in his locality honey is raised in the extracted form almost entirely. Since both kinds of honey can be raised with profit, it is of the highest importance that the public should look with favor upon them both. It is also desirable that our customers should be equally ready to buy any kind, for then the bee-keeper is at liberty to raise the kind which best suits his convenience or ability, instead of being obliged to sacrifice his interests in order to meet a caprice of the market.

I am very much surprised that a writer in this month's JOURNAL should urge bee-keepers to "turn prejudice against liquid honey"—as he does on page 77—especially since comb honey is not necessarily pure. The JOURNAL calls attention to this fact on page 86. If it were possible to cast upon extracted honey an undeserved odium, would it be a wise thing to do?

There is danger that if buyers believe that one kind of honey is adulterated, they will at least suspect the other, and they will be especially apt to do so, if they get their information from apiarists themselves. If the producers of one kind of honey unjustly decry the wares of their brother bee-keepers, it is quite probable that those who are interested in the other kind will retaliate by pursuing a similar course of conduct concerning the wares of the others, and this would bring about a very bad state of affairs in our business. If apiarists are to rival each other, let be in maintaining a high business standard.

Detroit, Mich., Feb. 1880.

[Our correspondent on page 77 was speaking of the adulterated liquid honey, and the one on page 86 was advocating a general law against adulteration. Mr. Weed has evidently misapprehended their language.—ED.]

For the American Bee Journal.

Will all Pure Honey Granulate?

C. WURSTER.

The question, will all pure honey granulate or candy, has been discussed a long time, and with great fervor; but it would seem to be still an open question, and I will now take the liberty to draw the attention of my fellow bee-keepers and assert what I heretofore have never seen in print or heard mentioned, that the honey so extracted remains liquid, wholly or partly so. I charge it to the fact that it was removed from the combs before being sealed over by the bees. Of this fact I am so well satisfied, that I can not believe that any one will be able to disprove it.

I have made exhaustive experiments to fathom the cause of it, and find, that such honey is extracted from the comb before it has evaporated (or, as I call it ripened), which I have found it will not do so in three days. I find that honey extracted from the same combs every three days will not uniformly granulate or candy, even if the honey is brought in by the bees in a very thick state. In proportion to the consistency the honey is in, when extracted, so will that honey assume a granulated form. I have extracted basswood honey that had been stored in the comb three days and rather thin, immediately putting it

in barrels, but I left the bung out and it did not candy in the least, though it was exposed to the coldest zero weather all the winter. For several months it remained the same; while some of it being kept in an open vessel became thicker and somewhat grainy, but not absolutely solid. I would not care much as to the consistency, were it not for the flavor, upon which the money value of honey depends, for it is just here where the cause lies that so much honey is pronounced adulterated. Such honey does not bear that mellow, charming and agreeable taste, and any person not accustomed to the use of honey, will say that it has a strange, strong, rank and wild taste, and he does not like it.

Unless bee-keepers pay more attention to this matter, we need not look for an increased demand, but rather the reverse. I have heard many express a preference for ordinary syrup rather than such honey. I have seen and tasted, this year, in dozens of places in the city of Toronto, such honey. Some of it is as thick as tar and clear as water, but with the peculiar rank flavor, with an acetic aroma and bitter taste; and the vendors, in the majority of cases, did not think the honey pure.

As I have rarely found pure honey not granulated in November, I would caution all bee-keepers against extracting honey before it is capped by the bees.

Klineburg, Ont.

For the American Bee Journal.

Queens Duplicating Themselves.

D. A. PIKE.

In an article in the September number of the AMERICAN BEE JOURNAL, I noticed a proposition made by Mr. A. F. Moon, to the effect that he would give, to any one sending a queen that would duplicate herself twelve times in regard to color, $25 for each queen.

Now, I know that it is hard to find such queens, and that they are very rare in some places; yet I am confident that I have them in my apiary, and I do not fear to come forward, accept the proposition, and, provided a fair and just decision is rendered, do not have any fear that I shall bear off the palm. The flag still waves over us Americans, as apiarists, and it seems strange that a question of so great moment to queen-breeders should be decided in the negative, simply because nobody can pick up courage enough to send a queen that he knows will stand the test, and quietly await the result. I have tested the matter, and now I accept the proposition.

I will send my queen, some time during the month of June next, to Prof. A. J. Cook, as per conditions, who may rear the young queens, and submit them to the committee of judges for a fair and just examination and decision.

Smithsburg, Md., Jan. 21, 1880.

For the American Bee Journal.

Bee-Keeping in Spain.

CHAS. DADANT.

I have translated from the *Bulletin d'Apiculture de la Gironde*, for January, the following article, which will be of interest to the bee-keepers of America:

Here the colonies of bees are few in number compared to the space of land. They are all located near the heath; none can be seen around the villages or in the orchards.

The owners of bees place them in groups of 5 to 20, in the spots the most favorable; mainly on the side of a hill, towards the southeast; sheltered from the north-western winds, and whose soil produces rosemaries intermixed with cystuses and heath trees.

The bee yard (*asiento*) is prepared by means of a few blows of the mattock, to level the ground. The shrubs are cut all around, to prevent the risks of fire, and the hives are placed directly on the ground. The hive (*corcho*) is a cylinder of cork, about 75 centimeters high and 35 in diameter (30x16 inches). A round of cork (*tempano*) shuts up one end of the gum, which is placed on a piece of the same material (*solera*) and this is put directly on the ground.

Such a hive is worth a *peseta* (about 20 cents); with a colony of bees, and filled with combs, it is worth 6 pesetas ($1.20). From about the middle of February till the last of March, the bees work on the flowers of rosemary; in April on the heath; in May on an indefinite number of plants, especially on thyme (*tomillo*) and broom heath (*quizuela*) with white blossoms; in June on the cystus, on the catkins of oaks and chestnuts. July and August are poor in flowers. In September there is another heath with white flowers; in October and November there is the arbutus tree.

In December, January and February the bees find very little; yet, if the weather is favorable, they can find enough to live on. But rain or cold prevents them from flying out, and when such bad weather lasts till March, a great many bees are liable to starve. They are never fed by their owners.

In March the hives are raised to clean the *solera*, and to cut the combs, which

project too low. This operation is called *escarzar*. Soon after the new hives are prepared to receive the swarms.

Swarming is always done artificially, between the 15th of April and the 15th of May. The hives full of bees (those which have bees in front) are always selected to be divided. After smoking the colony, the hive is tipped in a slanting position; an empty hive is placed on the first; both hives are united by a cloth, on which they are put; this cloth is pinned with 4 iron pins. All is fixed in such a way that the sun can warm the empty hive. Then a hole near the cover of the hive containing the bees is opened, and smoke is directed in the hive through this aperture; the hive is stricken with a small stick till the bees run into the empty hive. The operator watches attentively to see the queen passing from one hive to the other. As soon as the queen has entered the new hive, if they think that the swarm is sufficiently numerous, the hives are separated; the one containing the swarm is shut up with a wooden cloth (*manta*); the old colony is put in its place, and the swarm is located in another place (*posada*). When, during the passage of the bees they find two queens, they keep one in reserve, and use her in case of need.

When they are not sure of having a queen in the new colony, they put the hive on a black woolen cloth (*manta*). After a quarter of an hour, if the queen is there, they find a few eggs on the cloth, that the queen has dropped. If there are no eggs (*carochitos*), the queen is not in the hive. In such case, they let the bees go to their old hive, and they begin again two or three days after.

The honey harvest is made about the last of June, in the mountainous region (*dehesa*), and on the table lands (*rands*) on the last of August.

One colony of bees gives 1 lb. of wax worth 1.125 *peseta*, 8 lbs. honey worth 2 *pesetas*, 1 swarm worth 1.50 *pesetas*. In the operation of cleansing the hives in March, every hive gives a little wax, worth 0.125 *pesetas;* gross amount 4.750 *pesetas*. The expenses can be estimated, with the cost of watching and visiting the bees every second week, at 2.750 *pesetas*. The net benefit is, therefore, 2 *pesetas*, or about 40 cents per colony.

The operation of cropping the honey is called *castracion*. The hives full, and which have given a swarm, are *castrated*.

To perform the *castracion*, they lift out the *tempano* of the hive, and send some smoke of rosemary twigs among the combs. The bees are thus driven to the bottom of the hive. Then with two tools (*cucharra y citrera*) they cut out about one-third of the contents of the hive, which is placed in a bag made of goat skins. Then the *tempano* is replaced upon the hive.

When the honey crop is gathered, the rounds of cork are secured with stones, to prevent the rain from penetrating inside the hive, the crevices are shut up with earthen mortar, a small gutter is made around to turn away the water, and good *soleras* are placed under every new colony.

The other cares consist in visiting the hives from time to time, to see that the goats do not throw down the corks which cover the hives, and if rain cannot run inside of them.

Guadalupe, Spain, Nov. 12, 1879.

Do Not Let the Bees Starve.

Brief directions for early feeding may be given as follows: Feed only good ripened honey, or syrup made from coffee A sugar; feed just at night by placing the feeder (an inverted Mason fruit jar, the metal top having been punched full of small holes, or a box containing a wooden float) in the top story or body of the hive, so no outside bees can reach it should the feed not be entirely removed before the next morning; aim to give only as much as the colony can remove in one night, unless the bees do not fly during the day time, in which case, if they continue to carry down the honey, the supply may be kept up.—*Michigan Farmer.*

[Tin cans, such as are ordinarily used in putting up fruit and vegetables for winter use, are about as good as anything we know of, and much the cheapest, as they can usually be had for the saving, or for the trouble of gathering up and cleaning. Fill about three-fourths full with honey or syrup, tie a cloth firmly over the open end, then invert the can on the tops of the frames, and cover all with the blanket to keep warm. We do not advise feeding before the weather is warm enough for the bees to have frequent flights, unless they are quite destitute, when feed should be promptly and generously given. In all cases of feeding, we must be very careful not to incite the bees to robbing, which is one of the greatest disasters that frequently befalls the inexperienced bee-keeper at this season of the year. Should they be disposed to do so, close the entrances of all the hives to a half an inch.—Ed.]

For the American Bee Journal.

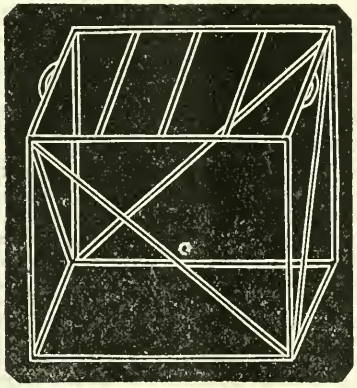
My Swarm Catcher.

M. S. SNOW.

I will here give a description of the swarm-catcher that I have used for years. It will serve the purpose of catching natural swarms, or in case of "swarming out," which they will often do, even if they are given a card of unsealed brood. I had three try it last season; they seemed to eat up all the eggs in the comb and broke up keeping house, making preparation to leave, and probably would, had it not been for the catcher.

Bees hived against their will,
Are of the same opinion still—

providing they have a nice hollow tree picked out. It is a nice thing where there are many bees kept and allowed to swarm naturally, for it keeps them all



separate. I have had as many as five or six in use at one time, making it unnecessary to climb trees, cut limbs, or dig them out of brush; they are caged and under control, and can be hived at leisure; no hurrying or sweating around for fear they will leave.

It is simply a light frame with handles, the sides and top covered with mosquito bar. Of course the hives must be on the ground, and so arranged that the catcher can be placed over them. All are welcome to use it, as there is no patent on it. If the bees have quite a start before it is placed over the hive, those outside will cluster back on the catcher, and seem to be anxious to get in. Queens are not so liable to be lost as when they swarm all over the yard; she climbs up the screen and joins the bees in one corner. I have had them start comb on the top-bars, when left 15 or 20 minutes before hiving.

Osakis, Minn., Jan. 20, 1880.

Journal of Horticulture.

New Plan of Giving Artificial Pollen.

FRANK CHESHIRE.

Some experiments with condemned bees, which I take to be in their results exceedingly instructive, I will now recount. On September 19th I placed 4¾ lbs. of bees in a large and well-protected hive, in the frames of which narrow guides only were provided. The first two days they took 4 lbs. of syrup, but afterwards for 7 days they were provided each evening with a filled bottle containing 3 lbs. 11 ozs. of syrup. They built comb of great evenness and whiteness, which now more than half filled the hive, yet the queen laid but few eggs. The reason, upon theoretical grounds I was convinced, was lack of pollen. Very little at this date could be found in our neighborhood, as the land is mostly under cultivation. If the pinch for pollen was already felt, how was the greater difficulty of providing sufficient for early spring breeding to be met? I placed trays of pea flour (pea flour I first pointed out as a fine substitute for pollen, since it stands in the front rank as a flesh-former) near to the hives, sprinkling chaff over the pea flour, as is now generally well understood, to give the bees a standing place while gathering it on o the hairs of the thorax.

A colony of Italians that had fed from these same trays in the spring started at once, and carried it in heavily, but my newly arrived blacks seemed unable to learn the nature of the boon offered them, only an occasional bee loading itself. I now reflected that the pollen of anemophilous trees—*i.e.*, trees fertilized by the wind—is not sticky, so that the wind soon separates it from its anthers and blows it on to the adhesive pistils of its flowers; while the pollen of entomophilous trees—*i.e.*, trees fertilized by insects—is stickey, and so can the more readily be made into pellets by the different species of bees, and added, as an experiment, to my pea flour a small quantity of pounded sugar to increase its adhesiveness. It was now perhaps loaded more easily and quickly by the Italians, but the blacks, as before, listened not to my wooing. The problem to be solved took this form: We can give sugar without asking our bees to leave their warm cluster to take it, but artificial pollen, even if accepted, needs the bees to quit the hive and expose themselves often to a temperature so low that many must perish; while the weather, when nitrogenous food is essential, may be such as

to altogether prevent any outside gathering of it. How, then, can pollen or its substitute be given within the hive?

In the natural way bees collect the pollen on the breast, and transfer it by the metatarsal brushes to the pollen pockets on the tibiæ; but to accomplish this, as may be seen by watching a bee over a flower, two of the three pairs of legs are required, and since the bee cannot stand on the remaining pair this packing is of necessity effected on the wing. I, in order to meet this requirement, placed a small tray of pea flour on the top of the hive, and added a small covered flight chamber, so that the bees coming from the top opening might have room for the hovering flight while packing. This was partially successful, but had this drawback—that the warm air of the brood-nest was leaking freely away into the chamber above. It now occurred to me that bees, when natural pollen is stored, place over it a layer of honey, and then wax seal it. After extracting the top of the stored pollen, saturated with honey, is constantly seen. Can it be wrong, therefore, to place the pea flour mixed with honey or its equivalent at once in the cell, and so save the bees all the exposure, labor of gathering, and storing it?

I now mixed some pea flour with syrup, containing the small quantity of salicylic acid I have previously recommended, into a paste, and, removing a comb, applied it with a flat knife, as boys at school sometimes apply butter to bread to fill up the holes. About 3 ozs of pea flour were soon put into the cells and the comb returned. Two hours after, upon removing the comb, to my intense delight, the bees had sucked out the excess of syrup, and had packed my pea flour down in the most beautifully regular manner, as though it had been pollen gathered in the natural way. The problem was now solved. What with much labor, and probably much loss, could only have been accomplished by the efforts of hundreds of bees had been done through my help by a few bees with comparatively no exhaustion, and actually no exposure. The next day the greater part of this pollen had been consumed, while the dry starved appearance of the brood, well-known to those who have overswarmed artificially, had passed away. Giving doses of pollen as needed, the breeding became rapid, and that hive has now not only a very large quantity of brood, but comb building has again commenced.

On the 8th inst. I put 4¾ lbs. of bees taken from 5 straw hives into an empty one and fed freely, and on Saturday the 11th I examined it. Comb had progressed well, and eggs were laid. As I removed a comb and pasted my pea flour mixture into it, I felt some compunction in marring its spotless purity. On Monday the 13th another examination was made, when I expected to find the pollen packed, as in the other hive under experiment; but, to my astonishment, in the 48 hours almost the whole of it (about 3 ozs.) had been consumed. There was yet no hatched eggs that I could find. The bees then, under the labor of comb building, needed the nitrogenous food to make good the wear of tissue involved. The microscope showed pollen granules in the stomachs of wax-workers, which gather naturally. These bees had made comb on sugar only, but no doubt were growing in some sort emaciated under the process, and the pea flour supplied the place of the pollen they would have consumed whilst gathering their sweets had this been done in the normal manner.

What an absolute refutation this gives to the notions of those who assert that bees never consume pollen, a statement which has no better base than a guess, and which is utterly at variance with all scientific theories of diets. This later hive, worse off as the season is more advanced than the one first named, is going ahead splendidly, and is rearing great breadths of brood, and is receiving its pollen as occasion requires.

We see here a way of building up bees almost without regard to the season, for not now can we give syrup, which is but half a diet, but pollen likewise, without one wing being moved in the chilly outside air.

London, England.

For the American Bee Journal.

Selecting a Location for an Apiary.

WM. C. CASSON.

One of the most important requirements for a successful apiary is location. We may have the best hive in use, the best race of bees known for gathering honey, the apiarist may be well adapted to the business, possessing all the knowledge necessary for success, but with a poor location it is still but a poor business.

Comparing it with other departments of farming—what is the choicest dairy of cows, the convenient dairy fixtures, warm stables and a man adapted to the work—without a rich pasture for summer, and good, sweet, rich meadow grass for winter.

We can plainly see that the future honey producers of America will be men who make it their special business; they should not be encumbered with so much other business that their first swarms have to hang on a bush all night or their neighbors be called to hive them, and they must have the best location their section affords.

I think there is scarcely a township in the United States but has from 2 to 6 fair locations. Such may be divided into three or four classes. The best location is one that faces the south and east, with a plenty of water, not too much, but always there; it is not enough that there is plenty within ½ or ¾ of a mile, it should be within 10 rods. If there are hills, have them on the north and west to break the wind from those quarters. There should be a plenty of pollen and honey-producing plants to rear a large stock of bees through the months of April, May and June. Then a plenty of basswood, white clover, raspberry and buckwheat, to obtain the surplus from.

The next best location is one that will rear all the bees necessary to gather a large yield, and but little basswood, white clover, raspberry, and about buckwheat enough for each family to have a mess of pan cakes. A poor location is one on the top of some high hill or half way down on the north side of it, with no water short of ½ a mile, or 40 feet under the ground, and plenty of wind from all points of the compass. It will, perhaps, have but little white clover, no basswood or buckwheat short of 2 or 3 miles; where the bees wear themselves out, in trying to live and keep up their race.

There are many fields from which bees would reach a rich harvest, that would not be a suitable place for an apiary. Last June I crossed a pasture field on the top of a high hill, which was covered with the thickest white clover I ever saw; it was so thick and white that it looked like a field of buckwheat in full bloom, ½ a mile away, but I should not want my bees on the top of that hill; I would rather have them within ½ a mile in the valley below.

In choosing locations we should be as particular as we would in locating a tannery or a mill, so the heavy burdens will work down hill, or around it. Bees should not have to fly up hill on the last end of their journey home; it is too hard work. A location sheltered from the north and west wind, facing the south or east, has more advantages than some are willing to allow. It not only keeps off the cold wind, but the sun in the spring warms up the hive and enables the bees to be out taking exercise and cleaning out the hives, and carrying in rye flour before natural pollen comes.

We often hear the inquiry not only through the press, but men who pass by, ask: Does it pay to keep bees? Would bees do as well where I live, as they do where you live? I answer: It depends upon the location and the fitness of the person for the profession.

We cannot change the nature of the honey bee; the industrious habit that they have possessed for thousands of years of visiting every opening flower and gathering all the nectar secreted there, they still possess, but we have learned by experiments that we can assist them in storing honey enough for their own use as well as ours, by furnishing a suitable habitation and location.

Addison, N. Y., Jan. 21, 1880.

For the American Bee Journal.

Chaff Hives, and Packing for Winter.

MRS. D. C. SPENCER.

As my convictions in favor of chaff hives, and out-of-door wintering, were somewhat strengthened by what I learned at the National Bee-Keepers' Convention at Chicago, I returned home determined to see what could be done to accomplish these results. Having 50 colonies in Langstroth hives, that I wished to winter thus, I devised means of changing them into chaff hives. I first made chaff division boards with 1⅛ inch space for chaff; the side to go next to the bees, was made of boards used for backs of picture frames, &c. The other side, of felt carpet paper, to be placed each side, inside the hive. I next made a chaff front piece to be placed in the porticos above the entrance, having a chaff space 1⅜ inches thick. The outside of these were made of ⅛ inch boards, the other of felt paper. Then I made a "lean-to" of similar material, covering the rear end of the hive, all intended for permanent fixtures, protecting from cold and heat.

I use an open honey-board ½ inch thick, having several ⅜ inch spaces running crosswise of the frames, and on this a heavy cotton cloth. The apiary being platted as directed by Mr. Root in A B C, the hives in alternate spaces, 6 feet apart each way. They were on summer stands made of 2x4 scantling, with slanting alighting boards *a la* Cook.

Before packing, I placed the hives

with their stands in rows, by moving those of the first row into the vacant spaces of the second; the same with the third, fourth, and so on, leaving a space between the hives of about 20 inches. The 4 inches of space under the hives, and the ground around, was covered with sawdust. I packed the bees, about the middle of November. The weather was warm but rain threatened, so that I could not take time to put all of the division boards in place, so I had to content myself by placing them against the outside of the hives, so that the top bar came close under the cleat supporting the second story. These consolidated rows were boxed, leaving about 12 inches of space in front and rear, and packed with chaff and straw to the top of the hives. Over the hives a chaff cushion 22x30 inches, 6 inches thick, was placed, projecting each way and resting on the surrounding chaff. On the cushions were placed the covers of the second stories to guard against leaky roofs, as well as for storage. Over these were placed shed roofs, having first filled every vacant space with straw. The entrances were contracted to ¾ inch, and straw packed around leaving an opening through which the bees may pass at will. A movable board was placed in front of the entrances to exclude the light and snow.

We had a few days of cold weather during the first week of November, so that the thermometer indicated zero, or below, two successive mornings. The weather soon changed so that it was quite warm, with no frost in the ground when I packed my bees. A few bees on the outside combs were frozen to death, yet I think they were all quite strong colonies and well supplied with honey.

I placed my observation hive with another, in the cellar, and I may hereafter tell you how they have wintered.

Augusta, Wis.

For the American Bee Journal.

Observations about Hives, &c.

HIRAM ROOP.

We often hear the remark that if we could have July and August weather all the while, bees would not have dysentery. If bees are put in proper shape they will generate sufficient heat to keep up a July or August temperature, in the coldest weather, and in our opinion be able to evaporate impurities from their stores, though some few of the frames in use do not admit of putting bees in proper shape for winter; Nature designed the honey-bees to go into a dormant state on the approach of cold weather, like nearly all the insect creation, and remain in this condition for several months, without injury to themselves. Thus we see that long confinement to the hive has nothing to do with the mortality among bees. Some say that many years ago, bees gathered honey from honey-dew, and then they did not have dysentery. If some scientist will tell us what kind of *Aphis* produced honey-dew, many years ago and what kind now do so, we shall all be able to answer that question.

Bees in a perfectly healthy condition discharge their feces in the hive, but in a dry state, and it is generally mistook for uncappings, the watery particles of their food being thrown off in a vapor, provided that the colony is in a proper condition to expel such moisture. Some hives are suitable for a home for the honey-bee, but the majority of them are not. The hive that contains room enough in the breeding appartment for 20 to 30 lbs. of honey in excess of that space which a queen will occupy with brood, is, at least, unprofitable for comb honey, not to enumerate any of its other disadvantages.

Some years ago I visited several apiarists in one of the Northern States, one of whom used a hive with 1200 cubic inches inside the frames; he had sold 4,500 lbs. of comb honey and 2,000 lbs. of extracted, from 55 colonies, while his neighbors had no honey to sell and were complaining of a poor season. They used a hive with 2,000 cubic inches, and thought it made but little difference what hive they used, provided it had movable frames of some sort.

During the summer of 1878 I ran 200 colonies for comb honey; in August of that year there was honey-dew, worked upon by about two-thirds of my colonies for about 10 days; the balance not seeming to notice it. We watched them closely but were unable to discover that they ever got a taste of it; I was also very particular to mark the location of these colonies, when put into winter quarters, and found on examination in the spring that none of them were troubled with dysentery or spring dwindling, while all the others had both badly, though they were nearly all strong in numbers when placed on the summer stands. We are satisfied, by experiments made, that had these affected colonies been in hives suitable or even fit to winter bees in, they could all have been saved.

Although we never deal in patent hives, we are sorry that most of our leading apiarists discourage any further improvement in hives. That this is wrong there is no doubt; the hope of

reward has given birth to many inventions, some of which have been of incalculable value to the country, increasing its wealth beyond our power to estimate. True, the country has been flooded with useless patent hives, but how long will it be before the standard hives of to-day will be equally useless? Is it not the case that what accomplished the greatest good in its day, is at length out-grown and becomes an embarrassment requiring to be wholly modified or laid aside.

Carson City, Mich.

Translated from the Bienen-Zeitung.

Use of Electricty in Catching Swarms.

O. FREIWIRTH.

Every apiculturist knows from his own experience, what colossal difficulties present themselves to the expert swarm catcher and yet more so to one that is unskilled and timid, when it becomes necessary to take in swarms. Sometimes the swarm has chosen some inaccessible hedge, the limbs of some unclimbable tree or some other unattainable object for their resting place. Often swarm follows upon swarm, the second one alighting upon the first, while a third begins to get ready to swarm. If, in such a case, the bee-keeper has not his head in the right place and firmly set—he will surely lose it, and with it a few swarms of his beautiful bees, which will bid him good-by, never to return.

Vexation and losses, and not unfrequently sneering mockery remain to the bee-keeper as a reward for his sincere, although unsuccessful painstaking. He at last consoles himself with the resolution, to manage things better the next time—but his unlucky star may again play him a trick.

In catching a swarm, especially if the apiary be extensive, one has to exercise much courage and skill, in mastering his stinging-children that are at liberty.

To obviate all painful stinging and the many deeply felt losses of swarms, I have constructed for my own use an electric swarm catcher, by means of which I can in a moment render a single bee as well as the largest swarm incapable either to sting or fly, and that without killing a single bee.

In the employment of the electric current, I took into view the well known fact, that, when any chosen number of persons join hands, and the members at the end of the chain touch a loaded Leyden jar or the electrodes of an active apparatus of induction, every member composing that chain will feel the stroke, respectively the opening and closing strokes, at the same moment, and that these strokes, according to the power of the inducted current, can be made to extend until they have produced temporary lameness.

In my experiments I used single bees as well as small and large clusters, treated them in the beginning very considerately and tender; later somewhat more vigorous, and lastly even merciless. The results of my experiments have surpassed my expectations, for the hospital which I had prepared for that purpose, consisting of a number of labeled boxes of small and large sizes, emptied themselves gradually, and their occupants issued forth fresh and sprightly. The duration of convalescence was in proportion to the strength of the current employed, and alternated from 10 minutes to fully 8 hours.

Hereafter I have the assurance, that there is a possibility of stupefying bees within their hives, as well as swarms hanging in the open air, by means of electricity. As I have had no opportunity as yet to put my art to the test upon swarms, I content myself with having instituted the above mentioned experiments, and of having obtained proof within the bee-house of the correctness of my conjecture.

To present an opportunity to the friends of bee-keeping to construct electric swarm catchers, or of having them constructed, without costly experiments. I will endeavor as far as words will permit, to describe my apparatus. In a small wooden box, about 5 inches deep and of the same width and length, there is to be found in the upper half a zinc-coal element, which is filled half either with double chromate of potash (3 parts of this potash, 4 parts pure sulphuric acid and 18 parts of water), or with sulphuric oxide of quicksilver (to be had at any drug store). In the lower half of the box there is a so-called sliding apparatus (Schlitten-apparat) with a hammer interruption. On the front side of the box is a knob, with which to control the power of the current or to interrupt it. The crotches holding the conducting wires are screwed down upon the cover of the box; the conducting wires are given a length at will, and when a case presents itself, they are fastened to a short stick or long pole, just as the height may require which lays between you and the swarm; they are fastened either with tacks or merely tied with cord. The upper ends of the conducting wires are not isolated (exposed metal), and project several inches above the

top of the pole; with these ends, which as a matter of course, must not come in contact with each other, the swarm is electrified.

The entire apparatus is transportable, and, when going out to catch a swarm, this little box is buckled around the waist like a cartridge-box. The liquid can be thickened by adding sawdust; but that is not necessary, because the apparatus is held in a horizontal position by the belt, and the hermetically closing lid prevents any liquid from escaping. The stick or pole, with the conducting wires attached thereto, is taken into the hand and raised or lowered, as may be required.

The filling of the apparatus only costs a few cents, and suffices for the electrifying of hundreds of swarms. My apparatus cost me about 30 marks (about $7.00).

When using the apparatus on bees in the hive, the conducting wires must be introduced into the comb, or, to make it more simple, they are to be pushed through all the combs at such a spot where you suppose the bees have mostly gathered; the honey sticking to it will not interfere with the effect—on the contrary, as a liquid, it will even convey it with greater speed.

Cannstatt, Germany.

Journal of Horticulture.

Things Known and Things Unknown.

A. PETTIGREW.

Government and organizations in the kingdom of a bee-hive are things beyond the reach of human knowledge. While united effort and perfect order are remarkable features in the conduct of a community of bees, who knows aught of individual authority and rule?

The industry of the honey bee is a fact known in all lands, and is the theme of poetry and song amongst civilized and enlightened communities. It is hardly possible to form an adequate conception of the industry of bees. The amount of work done by a colony in the height of the season cannot be measured or compassed. A colony has been known to gain in weight 10 lbs. a day—20 lbs. in two days; but who can tell the amount consumed to meet the waste and wear sustained in the manifold activities and labors both at home and abroad of such active creatures as bees? The amount of food consumed by bees during a day of hard work is great and should not be forgotten when their industry is under consideration. Even at night in summer there is a considerable loss of weight by the escape of moisture of a strong full colony. At one time many able bee-keepers believed that the queen alone distributed her eggs; but many now know that the bees assist in this work by removing the supernumerary eggs from the cells in which they are found and placing them in empty cells. But the question of how much heat is necessary in hatching brood remains unsettled. Brood evidently is brought to perfection at the swarming season in a high temperature, and often in February at comparatively a very low one. This is an interesting question for experiment; also the question of how much pollen is used in rearing brood, and how much or how little is eaten by adult bees. A few tangible facts about the consumption of pollen would tend to remove doubt and difficulty, and clear off the darkness that surrounds the subject.

One of the greatest marvels of bees is their wax-making powers. It is well known that wax is a secretion and excretion of bees; that the work of secreting wax goes on both by day and night—in the fields as well as in the hive; that during the comb-building season hundreds and thousands of bees may be seen and caught in returning from the fields with four, often six, plates or scales of wax each, half excreted or thrown off from the rings of the under sides of their abdomens. The quantity secreted, the way and apparent ease of excreting wax, are alike wonderful. The mysterious marvel of all is the fact that this wax-producing power is voluntary—put into action by the will of the bees. This may be proved in many ways, but simply by putting a colony into an empty hive. The bees at once commence to make wax, and in less than 12 hours some comb is built. In honey weather the hive may be filled in less than 12 days. If another colony be put into a hive full of combs the bees commence to fill them with honey, but the bees make no wax save, perhaps, a little for cell-lids to cover the honey and brood. In comb-building a great many of the wax plates fall on the boards and remain there unused. Their presence and accumulation are signs of health and prosperity. In full hives few wax scales are formed and fewer lost. If wax was not a voluntary secretion much honey would be consumed and wasted in the production of wax when it is not needed. In covering cells of brood the bees use materials of the same color as the cells. If the brood-combs are dark in color the covers are dark too. Why this is done is left to conjecture.

For the American Bee Journal.

"Apis Americana"—The Coming Bee.

JAMES HEDDON.

The remarks in the editorial department of the January number, 1880, are just my ideas, better expressed than I can give them. I have been thinking a great deal, and working some, too, in the direction of breeding qualities in bees, for the last five or six years. Before that time I was band-hunting—*i. e.*, breeding for stripes.

Being a special honey producer, my only income being derived from that source, I of course made every effort, both physical and mental, to increase my crop of surplus honey. Peeping first into this hole, then that, I thought one day that though there was much difference in the yielding qualities of different fields, also differences in results from different hives, and from other sources too numerous to be here mentioned, a still greater comparison was always to be seen between different colonies, of apparently equal numbers and condition, standing side by side. Is not this fact too widely known to more than need mentioning. I conceived the thought that by far the easiest way to increase my income was to endeavor to get all my colonies to act like Nos. 21, 27, 34, &c. Who could doubt for one moment that the sure and only way to do this was to re-queen the most inferior colonies with queens reared from the better colonies, that had no bad traits of character. Nature seems to extend her invitation to us to do this, for she has made it much easier to rear queens for home use than for sale; also given us the power to rear hundreds of queens from the same mother; made it such an easy matter to get rid of drones from each and every colony whose blood we do not desire; made development so rapid that we can rear many generations in a single season, and all with but very little lost time to the bees, when properly executed.

Three years ago I commenced to breed mostly pure, long, dark Italians in one apiary, and in the other (6 miles distant) a cross between the bees mentioned above and the large, brown, German bee. Of course neither apiary is, or ever has been strictly pure with either strain. These "strictly pure" apiaries are thickest on paper. A tour among "pure Italian" bee-keepers will astonish the tourist generally. In each apiary alike I was careful to breed the best traits in, and weed out the undesirable ones.

The Italians used were from Dadant's importation, and directly from Oatman, and, in my judgment, unexcelled by any other strain of their species. Such has been the testimony of all who have tried them, so far as I have heard.

Last season being the third year of this cross-breeding, I watched and compared closely the results. Without going into detail and making this article tedious, I will say that, whether a standard or fixed race can ever be produced or not, these crossed bees are the best bees, all things considered, known to the writer. The great objection to hybrids has always been that "sharp disposition." It happened that the strain of German bees I had, when I first introduced these long dark Italians, were such, or else the yellow bees were such, or the peculiar combination was such, that their crosses were as gentle as any bees I ever handled. This has been the case in every instance.

Mr. Langstroth was undoubtedly correct when he wrote: "Crosses, I think, will prove the point in the coming bee."

I was sorry to see so much more enthusiasm to import a supposed valuable freak of nature, the Cyprian, than to breed up the "coming bee," because I believe the former the most expensive, and very much more uncertain. The latter method is *sure*.

My course will be to pay no high price for any new bee. I prefer to go slow. I would rather be two or three years behind my more shrewd or luckily credulous contemporary once, than to be nine times a dupe.

Dowagiac, Cass Co., Mich., Feb. 10.

For the American Bee Journal.

A Chat with Adam Grimm.

M. M. BALDRIDGE.

About 14 years ago I had a pleasant visit with the late Adam Grimm, of Jefferson, Wis. He came to my house for the purpose of having a long chat on the bee question. I took a few notes of what he said on some of the topics discussed. As they may interest quite a number of your readers I now send them to you for publication.

Mr. Grimm stated substantially as follows: "Some years the basswood blooms in my neighborhood about 20 days, but this year there was only 1 day when the flowers secreted honey, and the bees did not gather more than 3 lbs., on the average, to the colony. After basswood harvest but very little honey is gathered for 10 to 15 days and during this time my bees will lose in weight from 8 to 10 lbs. per colony.

"This year I thought I would try the plan of moving my bees to different locations. As soon as the basswood was gone I moved 108 colonies 7 miles west of my home apiary to a buckwheat harvest of 60 acres on clay soil. One man prepared the hives and moved them in a one-horse spring wagon, in 4½ days. This buckwheat harvest lasted 16 days and the bees gained on an average, 15½ lbs. of honey. One colony stored 37½ lbs.

"Fifty-seven colonies were moved 4½ miles northwest of my home apiary to a buckwheat range of 30 acres, on low land, but they stored only 7 lbs. on the average; and will need feeding to keep them through the winter. There were 3 acres of buckwheat on high land, sandy loam, and the greater part of the honey was gathered from that.

"Towards the last of July I moved 57 colonies west of my home apiary 2½ miles to a buckwheat field on low land, containing 10 or 12 acres. These gained in weight 8 lbs. on the average.

"Fifteen colonies were moved the middle of August 5 miles southeast of my home apiary to 3 acres of buckwheat on high sandy land. They gained 12½ lbs. on an average, and some 21 lbs.

"Ten colonies were taken 2 miles southeast of my place to marsh flowers. These stored 10½ lbs. each. There was some buckwheat on low land but it gave no honey.

"Twenty-eight colonies were located 3 miles south near 2½ acres of buckwheat and about 10 acres of thistles. These gained 10 lbs. each. The buckwheat was on high, loamy land but it did not secrete much honey.

"Sixty-five colonies were left at home. They gathered honey from thistles and marsh flowers, and gained 10 lbs. each.

"My home location will support 1,000 colonies, in good seasons, when the basswood is in bloom—and I have not had a failure before in 20 years. There are two kinds of basswood where I live—one is white and the other red at the heart.

"In the spring I had an apiary of 121 colonies 3½ miles north of my home. These were increased to 190. Only 3 made box-honey and I shall have to feed about 20.

"Another apiary of 117 colonies 6 miles south, was increased to 185. Near this apiary was another, belonging to a neighbor, of 150 colonies. I had no white clover honey this year except from this apiary. White clover was in bloom there about 5 weeks and gave considerable honey.

"On the whole I think it paid me well this year to scatter my bees, as stated, for my home location was unquestionably over-stocked; 24 days in all were spent in preparing and moving my bees, and they were all carried in a one-horse wagon. At $5.00 per day the expense would be $120. I secured 2,780 lbs. of surplus honey, which, at 20c. per lb., amounts to $556, or $436 above expenses. It is my impression that this would have been lost, had all my bees been kept at home.

"I have just bought in Chicago 300 lbs. of rock candy, at 23c. per lb., with which I intend to feed 60 colonies. This candy is on strings. I shall put it in small boxes, with glass tops, with slats about ¼ inch apart, across the bottoms, and these I will put upon the tops of the frames. I will only put one box upon each hive as the German bee-keepers claim that 5 lbs. of this candy will winter a colony of bees from November to April. I intend to give the candy only to such as have 5 lbs. or less of honey.

"For the past 7 years my bees have been wintered in cellars, and my losses will not exceed 2 per cent. a year. Cellars with gravel bottoms are the best.

"Four years ago I tried to winter 48 colonies out of doors, under corn stalks, 3 feet thick; 38 were lost. They were so damp I think they froze. Had they been bottom side up and then covered with a ton or more of prairie hay they might have lived.

"My average number of colonies for the past 7 years has been 300, and my average loss in winter and spring before I began to winter my bees in cellars was 25 per cent.

"Young bees live mainly on pollen until they are 10 days old and should be allowed to fly before they are put into winter-quarters. My bees stop breeding by the 15th of October, and do not breed much in my cellars before the middle of April. They should then have brood at least 5 inches square. Bees winter better in old combs than in new ones,

"On the average my Italian queens do not deposit eggs before they are 9 days old and those bred from imported mothers not until they are 12 days old. Queens bred from imported stock are not as yellow as in subsequent generations and are also smaller. I do not believe that an Italian queen when fertilized by a native drone, produces *pure* Italian drones. The drones of imported queens are quite dark and the workers very cross. In very warm weather my queens will lay drone-eggs if not mated before they are 20 days old."

In the fall of 1874 I made Mr. Grimm a visit. He then had 15 apiaries con-

taining 1,158 colonies of bees. These apiaries were distributed over quite an extent of territory—from 7 to 9 miles from east to west and the same distance from north to south—his home apiary being nearly central. By thus scattering his bees he was sure of some surplus honey from a portion of his bees, no matter how poor the season might be. His crop of honey in 1874 from 700 colonies in the spring was nearly 26,000 lbs. He had at the time of his death in April, 1876, about 1,400 colonies of bees, which were reduced by sale to 700, and these were cared for, in part, by his son George. What his profits were for 1876 I cannot say, as I think they have not yet been made public.

It is my impression that the candy feeding experiment was a failure—having lost all or nearly all the bees that were thus fed.

Mr. Grimm had several cellars fitted up for wintering his bees, so as to save the trouble and expense of moving them back and forth from year to year. This he still thought was the only safe plan to pursue in wintering bees in northern climates.

During the last few years Mr. Grimm gave his whole attention to the production of honey and bees, and bred no Italian queens for sale. He believed that the hybrids were as good honey gatherers as the pure Italians and better for box honey.

The shrewd and enterprising reader may discover something in this communication that he can utilize and make profitable by its adoption.

St. Charles, Ill.

For the American Bee Journal.

Where Honey Comes From.

WILLIAM TRELEASE.

Honey, or at any rate the sweet fluid or nectar from which it is made, is collected for the most part from flowers, as everybody knows; and every intelligent bee-keeper can tell precisely what kinds of flowers are best suited to its production, some yielding much, others little, and others none at all. Did you ever ask yourself *why* this should be so; whether any particular organ exists in the flower for the performance of this function, and if so, how its structure compares with that of the other parts? Let us together ask this question of the flowers themselves. The first species we interrogate shall be one which is found in every house where flowers are loved—the scarlet geranium, or *Pelargonium*, as the botanists call it.

Carefully plucking a newly expanded flower by breaking its stem at the very bottom, let us note the parts of which it is made up: First of all comes the green or purplish flower-stalk or pedicel (e, Fig. 1), surmounted by five leaf-like organs, the sepals, which together make up the green cup or calyx in which the other parts of the flower are situated (c, Fig. 1). The uppermost of the five (c') is broader than the others, and an examination will show somewhere directly under it, on the flower stalk, a purplish bulb, from each side of which a faint groove may be traced to the corresponding side of the sepal (c'). This appearance is due to a part of the calyx which has grown down as a spur or nectary along the pedicel. Within the calyx

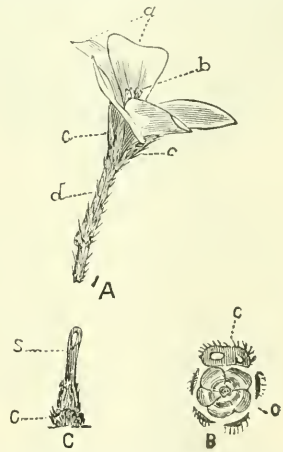


Fig. 1. A.—Young flower of scarlet geranium, natural size; B—pistil and calyx of the same flower, showing two openings into the nectary, magnified 5 diameters; C—the pistil seen from the side.

☞ In all of the figures a indicates the corolla; b, the stamens; c, the calyx; d, the nectary, or spur of the upper sepal c'; e, the flower-stalk or pedicel; p, the pistil; o, the ovary; s, the style; 1, the epidermis or skin lining the cavity or cavities of the spur; 2, that on the outside of the nectary.

are the five scarlet petals forming the corolla (a, Fig. 1), to which the flower owes its beauty, while within these are seven stamens, each composed of a white and pink scale or filament, tapering to a point above and surmounted by a small pink sac, the anther (b, Fig. 1), and filled with the brown pollen or male element of the flower. Surrounded by these stamens is the pistil or female organ of the flower, with its green, hairy base (o, Figs 2 and 3), the ovary, containing what are to become the seeds of the plant, and its white and pink upper portion, the style (s, Fig. 3).

Holding the flower-stalk in one hand, we gently bend the two upper petals away from the center, and see between

their bases and just outside the circle of filaments a depression containing in some flowers one, in others two small openings, of about the diameter of pins (c', Fig. 2), these lead into one or two slender tubes which run from this point to the bulb already noticed on the side of the pedicel, and are, indeed, the

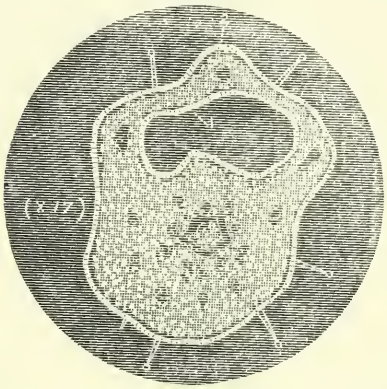


Fig. 2.—Cross-section of the upper part of the pedicel and nectary before the cavity of the latter divides into two, magnified 17 diameters.

doors through which insects must reach the nectar secreted in the lower part of the tubes.

To see the difference in the structure of the upper, non-secreting, and the lower, secreting, part of these tubes, it will be necessary, with a very sharp razor, to cut off thin sections of the flower-

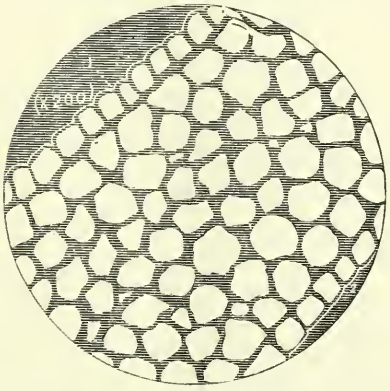


Fig. 3.—Part of the wall of the nectary at the same point, magnified 200 diameters to show the similarity between the epidermal cells on the outside (2) and those lining the cavity (1).

stalk and adhering spur at different points, and to study these with the microscope. Such a section, taken very near the upper end of the tube, and before it has divided, is represented in Fig. 3, magnified 17 diameters, and a small part of the same section is shown more highly magnified in Fig. 4. A glance at the latter shows that the cells (1) which line the cavity of the spur, differ very little in size or shape from those (2) which cover the outside of the spur. Fig. 5 represents a similar

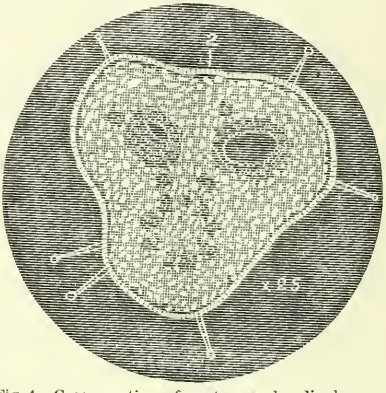


Fig. 4.—Cross-section of nectary and pedicel near the lower end of the former, magnified 25 diameters.

section cut just above the bulb, and a few of the cells which line the larger tube are shown more highly magnified in Fig. 6. The epidermis or skin on the outside of the spur does not differ materially from Fig. 4, 2, but it is seen at once that the cells which line the tubes at this place are very different from those which line them further up. Instead of being flat or slightly rounded,

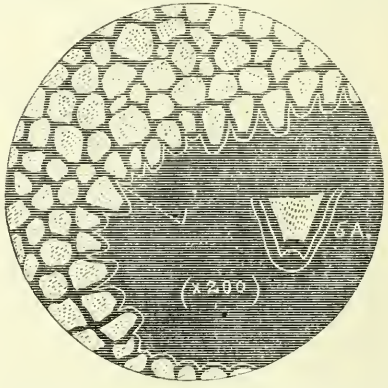


Fig. 5.—A portion of the same magnified 200 diameters, to show the form of the secreting cells (1); a—shows one of these cells magnified still more strongly, its protoplasm having shrunk away from the cell-wall.

they are conical in outline, and their ends project as so many little papillæ into the tube; moreover, their walls have curious thickenings at the apex of the cone, and the protoplasm or jelly-like substance that fills them is much

more dense and granular than in the cells higher up, because here it has to secrete the nectar. Where two tubes are found, both are similar in all respects to this description of the larger one, and where only one occurs it, likewise, has this structure.

One of the most beautiful studies in natural history is the homology of parts—the adaptation of an organ already existing to the performance of new duties; and it is interesting to notice here, that when our geranium flower needs a nectary no new organ is made, but a deep sac or spur is produced as a depression in one of the already existing sepals—much like the tube you could make in a piece of sheet rubber by pressing your finger into it—and no new tissue is made to secrete the nectar within this spur, but a little change in the layer of colorless cells that covers the sepal fits them for this work.

For the American Bee Journal.

The Queen laying in Surplus Boxes.

E. B. SOUTHWICK.

I notice an enquiry in the February AMERICAN BEE JOURNAL, page 98, from Mr. Anderson, of Lawrence, Ill., about the queen laying in the sections, when placed in the body of the hive. I generally start my sections in that way, and the queen has never occupied them for me. I always put on the tin separators, with the tin next to the other combs. I have frequently had brood raised in sections above, both drone and worker.

Mr. Church, of Springville, Wis., says he has a strip of wood in the center of his frames, which he thinks an improvement. I have used such in my frames for the last 3 years; made in this way: I have strips sawed like my frame stuff, only ⅛ inch thick; I put two of these, of the right length, placing a piece of my frame stuff, which is ¼ inch thick and about 1 inch long, between them at each end, and fasten them there with brads ⅝ inch long; and then fasten in the frame. They are a benefit in many ways. The comb will not break or sag much, and you can handle it with one hand without pressing your thumb and fingers into the comb. The bees can move from one end of the hives to the other without breaking the cluster, which I think is a great benefit in wintering; my succees in wintering I attribute in part to this form of frame, as I have not lost a colony of bees in the winter or spring since I have used this frame, and my hive. The frame has faults, but I will leave them for others to mention.

I took out about 500 combs while packing my bees last fall, and thinking they would not mildew in cold weather, I put them in the cellar; but it has been so warm this winter that they have mildewed, in part; where they were not filled with honey and capped over the capped part is free from mold.

Now will some one through the JOURNAL inform me if it will answer to use these combs in the hive, or what I had better do with them?

Mendon, Mich., Feb. 7, 1880.

[If given to strong colonies, one at a time, the bees will quickly clean them up. After a few days another may be given to them; but if too many are given at once, they may become discouraged and leave their hive.—ED.]

For the American Bee Journal.

Practical Hints to the Bee-Keeper.

H. T. COLLINS.

Have a hive record, either in the hive or in a memorandum book, kept for the purpose, and then you can always tell what you are about.

Let every frame be uniform and interchangeable and every hive the same, if possible.

Have a few bricks in the apiary and then when any hive wants early attention, indicate it by putting a brick on top.

FALL MANAGEMENT.

The honey harvest being over, the next important duty is to prepare for winter. After examining and equalizing the stores, you can generally tell the weight of honey in each hive by the following plan, for which I am indebted to my friend Prof. J. B. Turner, of this city. Provided the hives are nearly uniform in size and position, weigh two or three by platform scales, and then weigh them by a spring balance scale, which is done by attaching the hook of the spring balance to the top edge of hive, and pull (as nearly as you can parallel to the top of the hive) until it begins to tip. This shows the spring balance weight. Then by getting the ratio, you can tell about how much honey each hive contains. To illustrate, say the hive weighs by platform scale (the true weight) 80 lbs. gross, and by spring balance 16 lbs. gross; then 1 lb. per spring balance represents 5 lbs. of platform or true weight. If the hive and frames weigh say 40 lbs., then

deducting this from 80 lbs. leaves 40 lbs. of honey, and the hive is well supplied with stores. If any of the hives show (either by platform scale or spring balance), say only 60 lbs. gross, then they will have only 20 lbs. of honey, and will need attention. In weighing, during the winter or spring, whenever the spring balance loses 1 lb. of weight, the bees have consumed 5 lbs. of honey, and if any hive is running short, it can easily be found out. By putting the fall weight on the register, or still better on the outside of the hive, by chalk or charcoal, you can tell at a glance what hives will need attention.

WINTER MANAGEMENT.

To feed in winter or early spring (before the bees work out) I prefer to give them candy made of good coffee "C" sugar, with a little flour added before the syrup gets cold. Pour the candy syrup (when cool enough) into an outside prize box which has not been filled with comb, but the glass has been well glued to the box. Lay it on the table, glass side down, and fill as desired. By putting one or more of these boxes or "candy bricks" directly on the frames, and with the glass side up, of course keeping well covered and warm by the quilt and cushion, the bees will use it as they need it, and you can easily tell by the glass when they are empty. Furnish them at same time you give the candy, a 2-oz. panel phial of water, with wick to run by the side of cork in which a small notch has been cut Lay the bottle on the side and close to the candy. Be carefnl to have the wick fit pretty tight or the water will run out.

I find it a great convenience to mark on the outside of the hive or super, either with chalk or charcoal, the object sought. Say it is May and the hives have been prepared for the summer's work. The hives run for extracting are plainly marked "5-8 ext." which means this hive was prepared May 8th, with frames especially adapted for extracting, and when the time comes to extract it is a quick way to find what hive or hives you want to open.

Also for comb honey, the caps are marked "5-16 1 lb. sec." "5-25 2 lb. or prize box." "6-10 California sec." &c.

Where you take honey, either extracted or comb, note it down on the register; with a damp cloth wipe off the outside memorandum, and make a new record. Then it will be easy to see when this hive will probably be ready to yield more.

At the end of the season, add up the yield as shown by the register, you can easily tell which are your best workers, and the entire yield of the apiary. Keep the register so that it will show a debit and credit side, *i.e.* let one side of it show all you give the bees, and the other side show all they give you, and if you find any colonies that do not feed you, then you must feed them, which will be returning good for evil.

As I have greatly improved the retail section envelope, I send sample of same which please put in your interesting and valuable Museum, where I had the great pleasure last fall of spending two very profitable hours. All the bee-keepers are welcome to use them, and I think they will find them especially adapted to the nice sections, all in one piece, which I doubt not will be the coming box, but how is it to be used in or on the hive to obtain the best results? That is the question which I hope will be settled by the 1st of May next.

Jacksonville, Ill., Feb. 2, 1880.

[The new cover for 1 lb. sections sent by Mr. Collins forms a cheap and convenient protection, while retailing. It is duly labeled and added to our Museum.—ED.]

For the American Bee Journal.

Italian Bees in Russia.

CHAS. DADANT.

Mr. L. Sartori, an extensive manufacturer of bee-keepers' supplies, who lives at Milan, Italy, went to Kiew, Russia, to establish an apiary, with movable frame hives and Italian bees, on a large estate owned by Count Bouteurlin. The letter, sent by Mr. Sartori, while he was there, to the editor of the Italian bee paper, *L'Apicoltore*, containing an interesting account of the culture of bees and the customs of that far-off country, I translate for the readers of the AMERICAN BEE JOURNAL.

Mr. Sartori, after making a short allusion to the interminable length of the journey; to the wonderings of the Russian officers of the custom-house, on hearing of the arrival of Italian queens; to the kind reception bestowed on him by Count Bouteurlin, says:

"I have found here over 700 colonies in gums. These hives are about 2½ ft. high, 8 inches in diameter at the top, and 10 or 12 inches at the bottom. Nearly all are of the same dimensions. They are located on the borders of or within the woods, placed directly upon the ground, without any bottoms. On every one of them is placed an earthen vessel, to shelter them from the rain.

Two or three crosses of wood are fixed inside the gums, to support the combs.

"On the 1st of April (the 12th of the same month, according to our calendar), the hives are taken out of the stebuick. Then the combs are pruned to the first cross, to get wax, and the colonies are brought to their place on the ground. The bees then can find food on the hazel brush, the alders, and soon after on the fruit trees; and in succession on the rape, the flowers in the pastures. the linden, the white clover; in August o the buckwheat and the weeds in the fields, where they find a continual succession of flowers, extending as far as the eye can reach.

"The estates are very large; that of Count Bouteurlin being 20 miles in width by 30 in length, and there are no waste places, all is fields, woods, or immense meadows. There are several manufactories of bread, and two of beet sugar. These last manufactories give a net income of 15,000 roubles each, or $7,500.

"On about the 1st of September, according to the weather, the collecting in of honey is made. The hives are placed over a hole dug in the ground, filled with straw, which is kindled. The bees are thus smothered, and part of the combs fall down half-melted. Then all the contents of the gums are put in large tubs and brought to the house, to be sold to Jews.

"When the crop of honey is done, the gums selected to re-stock the apiary are lowered into the stebuick. The stebuick is a well about 30 to 36 feet deep, and 3 feet square. The gums, which on the ground were placed in a vertical position, are piled horizontally in the stebuick, their bottoms remaining open. The well is then covered with two or three boards, over about two-thirds of its opening. Over these boards a kind of straw hut is erected, whose door remains half-open. The bees stay in the stebuick for about 6 months. On the 15th of March the door is entirely shut up, to prevent the sun from warming the bees, which would become uneasy and fly out. Some colonies placed in the stebuick have only 15 lbs. of honey, while others have as much as 40 lbs. The owners do not care if their losses amount to 40 or 50 per cent., and they are unable to say whether the mortality is greatest at the top or at the bottom of the stebuick.

"They cannot believe that bees may starve; yet they think that 15 lbs. of honey is too little.

"As you see, there is something to be done to mend such a disorder, even before thinking of introducing greater improvements. The gums are sufficiently large, the more so, because some are placed over holes dug in the ground to give room to the bees for lengthening their combs. The blooming of the rape begins here on the first of June; ten days after the bees begin to swarm. These first swarms make 8 or 10 inches of worker comb, then some drone comb, then worker comb again. The result is, that bees here rear a great number of drones. During the blooming of buckwheat, the colonies which have not yet swarmed and the young colonies give swarms, which, in the buckwheat blossoms, find honey enough to make combs and for winter stores.

"The queens that I have brought with me arrived in first rate condition, and most of them would have endured another 20 days' trip. I was astonished at the small amount of honey consumed. I found one small box where no more than 10 cells were emptied of honey; the others were untouched.

"The sting of the Russian bee is more painful than that of the Italian; but these bees are more lazy than the Italian bees. They alight before stinging, and so give time to drive them away and avoid being stung. The Dutch are right in changing their bees for the Italians, was it not for other cause than the color.

"I have made 20 transfers from gums to movable-frame hives, in the garden of the house. In another apiary I had to examine 4 or 5 gums to obtain combs for a movable-frame hive, in order to get the necessary brood, and to leave enough to keep the colonies alive.

"To get the wax out of the combs they do not press it. They put the bag containing the melted combs between two boards, and press it by means of wooden wedges. There remains in the press 20 or 30 per cent. of wax, and even more, for sometimes the boards are too narrow, and the bag is pressed only in part. Thus they lose the greater part of the wax. The wax is worth here about 5 francs the kilogram (about 50 cents a pound). It is run in earthen moulds. The peasants buy it to make their own candles, to be sure that it is pure. They offer these candles in great quantities to the churches, for the salvation of the holy genealogy of the imperial family, for which they pray 12 times in their religious ceremonies, reciting 12 times, with the greatest respect, all the 60 or 70 names and titles, crossing themselves and striking the earth with their foreheads.

"In short, this country is first rate for bee-keeping. The bees, on account of the cool mornings and evenings, work only from 9 in the morning till 4 in the

evening; but their crop is abundant. A colony that I had transferred, filled all the upper story, which gave 10 combs of honey, in 14 days. I could have taken some from the lower story besides. Three other colonies did about the same.

"A prince here owns 3,000 colonies in 20 apiaries, and for 20 years he has kept this immense number of bees.

"I have selected some young men to give lessons in bee-culture. They were all only sons, because such are exempted from military service. They were selected young, because, if older than 20, it would be very difficult to break off old customs. People here work like machinery. Suppose that they were to come to Milan, and were shown the way around the place of the Duomo before entering the church, they would every time turn around the place to enter through the same door, never noticing that they might reach it more directly. These young men are docile, kind and obedient, and seemed proud when they understood how to do something.

"Nevertheless, this country is the 'promised land.' The ground is black, rich, and very fertile. All that nature produces is obtained here; but the 30° of cold in winter kills all vegetation. There are pear, apple, cherry and plum trees, etc., in great abundance, and very thrifty. But the peasants, although free owners of the soil, which the landlords were compelled to concede to them, work on the same principles, and with the same implements, that their forefathers did. They have wooden plows, with iron points and wooden wheels; their wagons are primitive, and so on. This country could be the America for our peasants, for most of the land remains untilled for lack of hands.

"The land here is about like the land around Rome. You can dig 300 feet down without finding a stone as large as a walnut. The lime, of which a great amount is used to whiten the insides of the houses every month, is brought from White Russia. For the smallest blot they whiten their houses—all the remainder is dirty.

"The peasants till the soil as did the first man, and they reap a great quantity of wheat. As soon as the work is done, they close up the crevices of their houses, and for six months they remain in a *dolce far viente*. They stretch themselves without undressing on the floor, near the earthen stove, under buffalo robes, consuming all and more than they have reaped, by drinking brandy which they have bought from the Jews.

"We journeyed every time, from one apiary to another, in wagons drawn by four horses; for there are no roads, and the horses run amongst ditches, brush, thickets, to and fro, with the risk of tumbling every instant. Yet such accidents are very rare, the horses being well trained and the drivers very skillful.

"The sun seems to be warmer here than in Italy, yet a little shade is sufficient to remind one that he is in Russia. The weather is always very fair.

"L. SARTORI.

"Tagaucha, Kiew, August, 1879."

For the American Bee Journal.

Above-ground Cellar for Wintering.

DR. G. C. WOOD.

A cellar under a dwelling is always more or less damp, and often the sole cause of typhoid fever and diphtheria. An outdoor cellar may be placed wherever most convenient for use.

If the ground for the foundation is level, an eight-inch brick wall, one foot high, is sufficient. Upon this wall lay lay in mortar a 2x10 inch plank; the sleepers 2x6x8 or 10, supported well in the middle, flush with the lower edge, nail firmly a strip 1x2 in. on both sides; the studding may be any length preferred, but should not be less than 2x6 (2 x8 is better) in width; in the center and on each side nail a 1x2 inch strip. Put the sleepers in place and erect the studs, the foot should rest upon the foundation plank; spike the stud and sleeper together firmly. For joists, over-head, 2x6 or 8; on the lower edge, nail a 1x2 inch strip each side; having plumbed and equalized the studding, nail a 1x4 inch strip below the top, equal to the width of the joist; upon this strip rest the joists and spike them well to the studding. This constitutes the frame; now lath each side of the strips on the studs, and plaster the outside course, use the tar or plain paper and side up with ship-lap or siding. Plaster the lathing on the inside of the studs, lath and plaster on the studding as in a house, also overhead. Upon the strips of the sleepers lay a floor of any kind of lumber (old barrel staves will do) and fill in with mortar mixed stiffly, of wood or coal ashes, with the addition of about one-fifth of lime; lay the floor when the mortar is nearly or quite dry. A rough floor on the strips of the joists over head is next in order and a 1½ inch of similar mortar.

The cellar may constitute a back room off from the kitchen, or may be placed so near the house that a covered way, 4 or 6 feet, will connect the two, for housing bees during the winter. The cellar should, of course, be of

sufficient width to take in a row of hives on each side and two rows standing back to back in the middle, giving a passage-way on each side. The studding should be sufficiently high to take in two or more decks of hives. I prefer the Hicks hive to any other, as they open like a book, exposing both sides of the comb, enabling one to see at any time how the family inside gets along.

About 4 or 5 half-inch auger holes, top and bottom through the outside walls, and between each stud, will ventilate the air chamber sufficiently during warm weather; all may be stopped up during the winter. Our wall in the entire cellar is surrounded with double air-chamber. Milk and butter will keep cool in such a cellar without ice, and the air is so dry, in summer and winter, that the cream all rises; for storing vegetables, there should be a 4 inch brick wall partition. Tons of vegetables for stock may be kept and be always accessible. Such a cellar will never freeze. The doors and windows should be of double sashes. Over the upper floor, it may be finished off for lodging or store-rooms. Ventilate the cellar, between the studding, top and bottom.

Dennison, Iowa.

For the American Bee Journal.

My Plan of Wintering Bees.

CHARLES KELLER.

I use the Langstroth hive 16½x23 inches outside, containing 8 brood frames and 2 division boards. The latter I put up close to the brood frames, which are covered with ducking. On this I use a quilt, made of thin muslin with cotton batting filled in to make it one inch thick. The sides I pack with chaff; the ends are made double with ½ inch air-spaces.

The cap is 6 inches deep, and has a square hole of 1 inch at each end covered with wire cloth, for ventilation. Above the quilt I fill in with leaves, all but about an inch at the top. No frost ever gets into the hives when prepared in this way.

If the bees have a plenty of honey they will winter successfully every time. I have used it successfully for 4 years.

I commenced in the spring of 1876 with 4 colonies; increased to 22, by artificial swarming, and did not lose a colony in the following winter. In 1877 I increased to 43 and again wintered without loss. In 1878, I increased to 78, and 6 nuclei, 3 of the latter starved, as I had moved 6 miles from the apiary I could not be with them in the spring. One colony became queenless, one was robbed, and one smothered. My loss therefore in 4 years being but 6 colonies and that was my own fault. I now have 102 colonies in my care, all in good condition. They are breeding now, and prospects are bright for a better honey season than the last.

Gibson's Station, Ind., Feb. 4, 1880.

For the American Bee Journal.

Theory versus Practice.

A. E. WENZEL.

The various articles in the valuable BEE JOURNAL from time to time, from the pens of specialists in the science of bee-keeping, I always read with much interest, as I am looking for more light; but frequently some production shows ignorance of facts upon its face, indicating that the author has but little knowledge of the subject on which he is writing. We know well that editors do not hold themselves responsible for the sentiments or ideas advanced by correspondents, in the best organs of any special industry. Some of these frequently strike a novice as very learned, but to the older heads, who have been "through the mill," they are calculated only to produce a smile.

Those persons of one idea, for instance, who figure all to get a honey-rack into place upon a hive, think it the *ultima thule*, and would laud that fact with circus-bill demonstrations of weighty adjectives, giving color to that preponderating idea, with more than Pythagorean glory, of the discovery, concerning which he wildly exclaims, "Eureka!"

Experience has taught us that without ingenuity to adapt the circumstances of one branch of our industry with another, that some would-be apiarists, by their advice (mostly through interested motives), have frequently brought consternation upon their unsophisticated brethren. But the AMERICAN BEE JOURNAL is striking sledge-hammer blows at the foibles, as one of the "varieties which make up the spice," while plodding along "allee samee."

The above is written partly as an apology for trespassing upon the editor's valuable time, by sending him last month, for perusal, a missive which he returned, originally sent me by a party explaining the points of a hive which I would not give the pleasure of recognition, because it was positively vulgar in its self-laudation.

Callicoon, N. Y., Feb. 8, 1880.

Conventions.

Rock River Valley Convention.

The bee-keepers of Davis Junction, Ill., and vicinity, met pursuant to call. G. W. Frasier was called to the chair. It was voted to organize an association to be called the "Rock River Valley Bee-Keepers' Association." After some preliminary business, it was adjourned till 1 o'clock, when the following officers were duly elected for the coming year:

President, A. Rice; Vice President, J. C. Evans; Secretary, D. A. Fuller; Treasurer, H. H. Everton.

Constitution and By-Laws were then adopted.

Mr. Lucas asked if any member had fed in the spring, so as to make it profitable?

Mr. Evans thought it paid him to feed a little honey early, to stimulate.

On the subject of "how to winter successfully," Mr. Everton was called for, and said that he put his hives in a row, on 2x4 scantling, facing the east; boarded up on the back, then packed all around them with chaff and straw; and never lost any when prepared in this way.

Mr. Lucas preferred the cellar.

Mr. Evans thought that the reason for so many dying in winter, in the cellar was the want of upward ventilation.

Mr. Cumming asked if any one had experimented as to which takes the most honey to winter, out of doors or in the cellar.

Mr. Lucas said that the cellar takes the least honey, and to keep them there until they can work in spring is a sure preventive of "spring dwindling."

Mr. Morse asked what was the best food for bees.

Mr. Everton thought rye flour and honey the best.

The President described how he fed his bees, using a goblet with a piece of cloth over the top, turned down over the frames; he feeds syrup made of sugar and water.

Mr. Everton uses a lamp chimney, which he can fill without removing.

Mr. Frasier preferred the Shuck feeder.

Mr. Lucas then gave his plan for catching swarms, as follows: He takes a long stick or pole and ties on the end of it a bunch of mullein heads. When the swarm is about to cluster, he holds the mullein heads amongst them and they immediately cluster on them; he then carries them to the hive.

Mr. Frasier asked for the number of colonies each member had in the spring, increase, surplus honey, and manner of wintering.

	Spring.	Increase.			Surplus.
Mr. Frasier	18	10.	Wintered in cellar.		None
G. & D. A. Fuller	45	20.	"	"	1000
Mr Lyman	8	6.	"	"	175
J. C. Evans	8	5.	"	"	160
Eber Lucas	15	20.	"	"	1200
O. J. Cummings	9	6.	"	"	.....
A. Rice	20	30.	"	"	200
H. H. Everton	18	10.	Packed in chaff,		700
W. Morse	7	3.	"	"	.....

The question of "How to Italianize" was answered by the President, as follows: Catch the black queen, cage her one day before removing, then put in the Italian queen, with one end of the cage filled with leaves; when the bees want her they will pull out the leaves, and thus liberate her.

It was voted that the next meeting be held at Davis Junction, May 18th 1880.

D. A. FULLER, Secretary,
Cherry Valley, Illinois.

Read before the Indiana State Convention.

How to Succeed in Bee-Keeping.

REV. M. MAHIN, D. D.

As this is a Convention of bee-keepers, I presume that all are interested in the best means of securing success. And though I do not pretend to rank with the great bee masters of Europe and America, I think I can make some suggestions which will be of advantage to those who have less experience than I have had. I began bee-keeping 10 years ago, and I have been an amateur and enthusiast ever since. I have read nearly all that has been written or published in this country on the subject, and have had a somewhat large and varied experience.

I have given everything pertaining to bee-culture very careful attention, and I have been as successful as any of my acquaintances who have been in the business. There was a time when I was more ready to dogmatize than I am now. Experience has taught me to be modest in my claims as to a knowledge and mastery of the subject.

The first thing necessary to bee-keeping is a hive. Bees cannot be kept without something to keep them in, and experience has demonstrated that in these wide-awake times, when competition is so sharp, it will not do at all to keep bees in the old box hives and log gums. We must have movable-comb hives, and to be successful we must have the best attainable. I shall not enter largely into the discussion of the hive question. There are many good hives now before the public, and any one of the good ones will answer

the purpose. I would not advise any one to pay for a patent right. Everything necessary to a good, movable-comb hive is now, and has been for years, public property, and the patent features of most at least of those that are still covered by patents, are attachments that may be left off, not only without detriment to the hive, but with positive advantage. The simplest form of movable comb hive, in my judgment, is the best. I want no movable sides, no metal corners, no moth traps, nor any other expensive and useless attachments.

The next requisite to successful bee-keeping is bees. A man who has no bees cannot keep them, though he may have ever so good a hive, and there is a great difference in bees, as well as in hives. There is a difference in the qualities and profitableness of different families of black bees. Some are more vindictive and more difficult to manage than others. The difference is not only in the treatment they have had, but in the blood. The same is true of Italian bees. While as a rule they are more peaceable and every way more easily handled than black bees, there are exceptions to the rule. Occasionally we find a colony of well marked and apparently pure Italians that are crosser than the average blacks, with this difference, that they are quiet and peaceable until they are disturbed.

Having had nearly 10 years' experience with Italian bees, I give them a decided preference over the black race, and advise all who have not already done so, to get them. And as there is a great difference in the qualities of different strains of Italians, get the best, without regard to expense, and keep no others.

In successful bee-keeping, more depends on the bee-keeper than on the hive, or the particular strain of bees. In order to succeed in this pursuit, a good degree of intelligence is indispensable. But a man may be intelligent in other things, and yet be a flat failure as a bee-keeper. He must become thoroughly acquainted with the natural history of the bee. He must be so thoroughly acquainted with bee instincts as to know with approximate certainty just what the bees will do in any given circumstances. He must be familiar with the entire internal economy of the hive, so that if anything is wrong he can ascertain what it is and apply the remedy.

I do not believe that any one will succeed as an apiarist who has not a genuine love for bees. The successful bee-keeper must feel enough interest in his bees to know at all times, winter and summer, their exact condition, and he must be careful to do for them what needs to be done, and to do it at the right time. If bees are to be left without further attention than to "rob" them when they have more honey than they need, then the best hive (beyond comparison the best (is a section of a hollow tree, with a board nailed on one end for a honey-board, and a box on top for surplus honey. People wi o have no skill in handling bees should adhere, by all means, to the old methods.

Logansport, Ind.

Southern Michigan Convention.

The annual meeting of the Southern Michigan Bee-Keepers' Association was held in this city on Feb. 6, 1880; about 20 apiarists being present. The number of colonies reported on hand last fall was 442; increase during the past season was 300, largely by artificial swarming. One man had 129 in the fall of 1878, and but 1 left in spring of 1879. He purchased 8, and increased to 78 colonies.

Those present reported 228 colonies packed in chaff on the summer stands; 129 in cellar; and 45 out of doors. As near as I could estimate, the crop of honey in general was not more than one-third as large as in 1878.

All the officers of 1879 were re-elected. The interest in bee-keeping is increasing and we hope to make a better report during the coming year.

Adjourned to meet on the first Wednesday in May next, at 10 a.m.

B. SALISBURY, *Sec.*

Battle Creek, Mich., Feb. 15, 1880.

North Eastern Convention.

[The following Report is condensed from the Utica daily papers. We omit some of the discussion, and all the essays for want of room, as the copy was not received from the Secretary until this JOURNAL was nearly all "set up."—ED.]

The Northeasten Bee-keepers' Association met at Utica, N. Y., on Feb. 11, 1880, at 1 p.m., Pres. L. C. Root in the chair. The annual Reports of the Secretary and Treasurer were read and filed.

Several gave their experience during the past season and then the Secrerary read a paper on the "Improvement of the Italian Bee," by A. F. Moon, of Rome, Ga.

This evoked some discussion upon the merits of Italians as compared with the native bees. Some being loud in their praise of black bees, Mr. N. N. Betsinger remarked: "We have several

bee papers afloat, and the question often comes up which is the best paper. Unless we read them all, we will not know. Many men take bee papers a whole year, but do not read them. I am surprised to see men who, according to their own story, have kept but few Italian bees condemn them. I thought the bee question was settled many years ago; and everybody knows that the Italian is the best."

The President said it was annoying to see the unqualified assertions made in the bee papers in favor of the superiority of Italian bees. There are many points of superiority in the Italian bee, but it was absurd to claim all the superiority for them. Italian bees had been bred out, and the stock had not been kept pure. The fact that people introduced Italians led them to investigate more closely and take better care. I claim that it is an advantage to a beekeeper to have both kinds. The question is, if we have two colonies in the spring, one of each kind, which comes out the strongest? The idea that Italian bees will not rob, is wrong. I have found that the Italians will not only find honey quicker, but take, comb and all, when the natives are satisfied with the honey. Italians work best on some kinds of blossoms, and natives better on other kinds, for this reason it is better to keep both kinds. It cannot be doubted that the Italians are not as easily disturbed as the natives, and this is much in their favor. I have known Italian bees to work right along getting white honey when the natives are getting dark honey. Any man who, in this advanced age, has not taken enough interest in the matter to keep at least one colony of Italians, is decidedly behind the times. The number of drones should be limited. I have paid as high as $20 for one queen, and have thought it profitable. This idea of rearing queens in hot-houses and nurseries has been carried too far. This buying "dollar queens" I do believe is cursing the Italian stock. We want to rear them purely. We can better afford to pay $5 for a pure queen, reared under proper circumstances, than we can afford to take one of these "dollar queens" for nothing. We should take the queens that have been tested, and breed from them whatever the cost. The fact that the Italian bee fills the cell fuller, and caps it over directly on the honey, leaving no air, is a great advantage for the keeping qualities of the honey. I believe every man should keep both kinds and then test for himself. I have tried them in this way, and the results have been in favor of the Italians in thousands of instances. It is no wonder that these "dollar queens" run out so soon. It is a pity they did not run out sooner. With the large number of native drones allowed to accumulate in the hive, the wonder is not that there are so many native, but that there are no more.

An adjournment was had until the evening, when a discussion was entered into on the proper size of a colony of bees on the first of May. After some discussion, the following motion passed:

The Northeastern Bee-Keepers' Association in Convention assembled, do hereby adopt as a standard for a colony of bees, on the 1st day of May: They shall occupy at least four spaces. Colonies occupying less than four spaces shall be termed and known as nuclei.

Mr. Edwards. How many spaces must the bees occupy at the beginning of the honey season, to warrant us in expecting box honey?

Mr. Betsinger. It takes about four quarts of bees to take care of the things below—the kitchen work. All the bees you get above this number go to make box honey. One way to guess at the number of bees, is to measure them when you shake them into a basket to hive them.

Mr. Alexander. I have never obtained box honey till the hive was somewhat crowded with bees, whether it was large or small.

Breeding Queens.

Mr. Edwards. What is the relative value of queens, as reared under natural swarming impulses, compared with those reared artificially? By difference I mean longevity and the other good qualities we all want; by artificial, I mean those reared by compelling bees to breed when they would not do so ordinarily.

Mr. House. I have used cells, and my experience is that there is not much difference. A queen reared when a swarm is cast off naturally is a size larger; she has a larger abdomen, but there is no difference otherwise. The cells must be cut from a full colony. I can discover no difference.

Mr. Alexander. I have had as good queens reared artificially as in the natural way.

Mr. House. It makes some difference with an artificial queen if reared in the spring. A queen reared in the middle of May, or earlier in the spring, is not as good as one reared later. The best time for rearing queens is from the middle of May to the latter part of June. Queens reared in the fall—August or September—I have had as good success with as those reared at any other time of the year.

President Root. The reason why the queens reared in full colonies are better, is that such a colony must be an extra good one, and must afford all the essentials for rearing a good queen. The egg deposited is exactly the same, and it is hatched just the same as if the bee is a worker. There are persons who say they can rear a better queen by supplying only eggs and the larvæ, and these get more attention in this way than when there are other bees. I do not believe this. We should breed when there is a flush of feed, and in the swarming season. There is a reason for later queens being good. We can get our stock purer in this way. We make a colony queenless and the drones are destroyed. If our queens are reared late in the season, when it is colder, that is against them. I do not believe it makes any difference whether the egg is deposited in the cell for the queen or not.

Mr. Betsinger. A double-handful of bees in a small box will rear a queen just as well in the summer. I have known of queen cells being built outside the hive—on the under side. This was done with the thermometer at 90°. Queens reared artificially, I can prove, are just as good as those reared naturally. Take a hive with a dozen or more queen cells, and graft in these natural cells; under what condition would these be raised—natural or artificial? They would ordinarily have been workers. There can be no difference in the result. Queens, naturally, are reared in 3 or 4 weeks; artificially, they are reared in a much longer time.

Keeping Comb Honey.

Mr. Waters. What is the best mode of keeping box honey after taking from the hive, whether in the dark or light, whether cold or warm?

Mr. Betsinger. My experience has been to lead me to keep honey in a warm place. I never let the temperature go below 80°. From 90° to 95° is about right. I keep the honey in a dark room, as it keeps it lighter colored. Keeping honey in a warm room makes it thicker and heavier. I do not care if every cell is unsealed, the honey will become so thick that it will not run out. When the temperature goes below 60° the honey gathers moisture, and is thin.

Mr. Alexander. I prefer keeping honey in a dark warm room, but not as hot as Mr. Betsinger advocates.

Mr. House. The higher the temperature is kept, the heavier, thicker and less liable to break, the honey becomes. I keep my honey in a warm room on the south side of the building. Honey needs a pretty high temperature to cure well. It will be better flavored and keep better in a warm room.

Mr. Waters. The greatest trouble is with the moth worm where kept warm.

Mr. House. Some writers claim that honey should be brimstoned. I am not in favor of this. After taking out your honey, put it in a room where the millers cannot get at it, and you do not need brimstone. It injures the flavor of the honey to use brimstone. Italian bees will not allow millers to get in. Natives allow millers to get into the brood-chamber.

Mr. Betsinger. The miller is in the comb. A little brimstone is necessary. I put it under the honey which stands two feet four inches from the floor. Put a piece of tin under the honey to prevent the honey or house catching fire. After lighting the brimstone, shut the doors, and leave it 24 hours. Treat the honey thus every 4 weeks. Do not use too much brimstone. No definite amount can be given. The amount must be determined by experience. By treating honey thus you can keep it almost forever.

The President. Has Mr. Betsinger had any bad effects from over-heating?

Mr. Betsinger. Only from foundation comb. This will crumble at 135°, where natural comb will stand.

The President. I had intended to bring with me a box of honey placed in a warm room, and cured too rapidly. There is no question that the honey was injured. I am not in favor of very warm rooms. In my judgment we want a moderately cool room. I think the largest honey raisers do not prefer warm rooms. I am not an advocate of brimstone. It is not often that I find it necessary. Mr. House's experience is that of very many of our best bee-keepers. Such boxes as seem to be affected should be kept away from the rest. I should prefer a moderately warm and very dry room. Mr. Hetherington who raises honey by the ton, does not find it necessary to use brimstone. If we use a very warm room, we shall be obliged to use brimstone.

Mr. Snow. Boxes that contain anything darker than ordinary honey, I put away, and use brimstone on. I keep my honey up stairs, with a wire screen at the window. It is dry and warm.

Mr. Betsinger to the President. It makes no difference how white the combs, are about the moths hatching. Of course they will hatch quicker where there is pollen. Mr. Root objects to keeping honey in a warm temperature. but does not state his objections. He knows, however, that the temperature best for bees, from 97° to 102°, is best for honey. Imitate nature.

Mr. House. Where men have been bothered with millers, I think that the trouble is with themselves. Keep no old combs in the hives; keep the hives clean.

Mr. Betsinger, to the President. In sulphuring the honey it does not kill the eggs. You cannot kill the eggs. The eggs will hatch at 80°.

Mr. Alexander. I think the eggs will hatch at a much lower temperature.

Mr. House. I think they will hatch at 45 or 50°.

Mr. Betsinger. There are two kinds of worms, one of which, of a reddish color, hatches at a lower temperature.

Adjourned till 9 a. m.

Met at 9:30 a. m., on Feb. 12th. After appointing some committees, two essays on "Swarming" were read. They were by A. B. Weed and D. D. Palmer.

N. N. Betsinger. I can not see that any new ground is assumed.

President Root. New ideas are what we are in search of, and Mr. Betsinger is the man to furnish them.

R. Bacon. These papers take the ground that I took several years ago.

After some discussion on this topic, the Secretary read an essay entitled, "A Neglected Field," by H. A. Burch. The paper suggested that the honey trade ought to be more concentrated, and only one or two houses in each city engaged in it. This would give greater uniformity in prices. This also gave rise to a discussion.

President Root. As was suggested by Mr. Burch, why would not a committee appointed by the Convention be a good plan, to report to bee journals on this subject? If we have men who have the time and means to investigate this matter, we can give them a big job.

A. G. Thurber. The honey business should be concentrated. We have found that small consignments have in great measure hurt our market. The time is not far off when honey will become more staple; but before that, producers have got to put up stock more uniformly. If we can adopt a more uniform style of box, and get a certain number of combs in the box, it would be much better for the trade—boxes as nearly the same weight as possible. You can just as well make an even 24 lb. box as 24¾ lbs., by placing in light or heavy combs as required. I do not believe in having commission men compete in bee-keepers' goods. As soon as the business gets down to buying and selling only, we stand ready to take hold of it.

The Secretary moved the appointment of a committee to carry out the objects of the paper of Mr. Burch.

Adjourned to 1:15 p. m., when all the officers of the Association were re-elected. Rome was selected as the place, and the first Wednesday in February, 1881, as the time for the session of the next Convention.

The President then delivered his annual address, which was a dissertation upon the "Best Method of Increase."

Mr. A. G. Thurber then addressed the Convention on the subject of "Marketing Honey." He recommended a uniformity in the style of preparing honey for market, and of grading it.

The Secretary then read his paper entitled, "Past Events," after which some resolutions were passed, when the Convention adjourned until evening, which was devoted to an examination of the articles on exhibition, and receiving explanations from the exhibitors. Articles were on exhibition from the following persons: J. H. Nellis, A. J. King, C. F. Muth, L. C. Root, J. Van Deusen, J. Y. Detwiler, Mrs. Dunham, N. N. Betsinger, H. H. Cheney, J. E. Moore, J. Hoffman and A. G. Thurber.

Feb. 13.—At 9:30 a. m. the Convention met; Vice President Clark in the chair.

The prize essays were then read on "The Races and Different Crosses of Bees," by Julius Hoffman, and "Comb Foundation," by Mrs. Dunham and J. Van Deusen.

After some discussion, President Root said:

I have tried foundation in almost every way. The fact that 100 combs were well sealed would not prove its grand success. What we want to know is whether, all things considered, it is profitable to use. I claim that it is so. We secure straight, handsome combs; straighter combs than in any other way. I think we need something in the brood case to prevent sagging, but it wants further testing. I should not advise using the foundation in brood without wires. As to comb in boxes, I have taken ground in my book against it; but if I were to express my views to-day, I should modify my opinions. That is because so much improvement has been made in its manufacture. I am opposed to having the foundation built out in the hives. It makes extra work. As to the amount of foundation to be placed in the box, it should reach from the top of the box so nearly to the bottom that the bees can reach it.

[The afternoon session was devoted to the awarding of prizes and answering of questions, for which we have no room left in this issue of the JOURNAL. These, together with the essays, we may give hereafter.—ED.]

Letter Drawer.

Gibson Station, Ind., Feb. 2, 1880.

I commenced the season of 1879 with 72 colonies; increased to 112, and obtained 1800 lbs. of comb honey and 700 lbs. of extracted. It was a very poor season here. CHARLES KELLAR.

Lizton, Ind., Jan. 27, 1880.

My bees are flying freely this week, and I shall stimulate them. If the weather remains favorable, my hives will be full of brood by the time the apple trees blossom.

JAMES H. O'REAR, M. D.

Glasgow, Scotland, Jan. 8, 1880.

Bees and bee-keepers are very quiet, at present; the bees are getting along very favorably. It is very gratifying to notice the wide-spread influence and circulation of the excellent AMERICAN BEE JOURNAL. May it long enjoy the position of leading all the publications in the world on apiculture.

JOHN D. HUTCHINSON.

Fredericktown, O., Jan. 24, 1880.

My bees are wintering nicely, they have had frequent "flights." My experience proves that there are two main causes for bees dying in winter: Long confinement, and old queens. Last winter I lost ½ of my colonies, but not one died that had a young queen. I do not think the food has any thing to do with the disease. All had the same food, and yet some colonies died while others did not. If poor food was the cause, why did not all die alike? I will not winter a colony with a queen over 2 years old. J. DUNCAN, JR.

Ashland, Mo., Jan. 27, 1880.

Our honey crop last year was a total failure. My bees are in fine condition and wintering well, but it would be strange if they did not, as I never lose any in wintering. I have 130 colonies and have kept just about that number for several years, never varying more than a few. The losses in Missouri will be fearful this winter and spring; many large apiaries are now all dead, from starvation. The losses are much the heaviest among the black bees; they will nearly all die this winter. The past season has shown the immense superiority of Italian bees over the blacks, especially the most improved families. The best Italians are generally in good condition and will winter well. E. C. L. LARCH, M. D.

Council Bluffs, Iowa, Feb. 5, 1880.

I am a beginner in bee-keeping; I have 3 colonies of black bees in movable-frame hives. Moth worms troubled me very much last summer, but by going through the hives carefully three and four times a week, I kept them down. I often found patches of brood about to hatch, that had been uncapped; some young bees were dead, some maimed, wings torn or entirely gone; the cells often destroyed (that is no partition between the bees), sometimes a piece of comb 3 or 4 inches in area would crumble out, leaving a hole clear through the comb. The dead bees were usually of a gristly white color, though some were quite black. The dead bees and also the maimed, were carried out of the hive by the workers, and often the combs were repaired. Can you tell me what was the cause of this? I have thought that the moths were to blame, but I now fear that it may be a light form of foul-brood. There was no bad odor about my bees. If I have anything like foul-brood I do not wish to be at the expense of Italianizing my bees. Please answer in BEE JOURNAL.

M. M. FAY.

[It certainly is not foul brood. The destruction or crumbling of the comb indicates the work of the moth worm—nothing more.—ED.]

Garden Plain, Ill., Feb. 4, 1880.

There will be a heavy loss among the bees that swarmed considerable last season. I am building a new workshop and creamery, and I expect during the coming summer that my place will "flow with milk and honey."

R. R. MURPHY.

Poplar Bluff, Mo., Jan. 21, 1880.

This is a fine locality for bees. As a general thing bees in this country pay but little attention to buckwheat bloom there being such a vast amount of other blossoms. I extracted 220 gallons of honey from 58 colonies last spring. I now have nearly 200 colonies. I bought over 100 this fall and winter; the most of them are very strong; quite a number are full of bees from side to side of the hive, across 10 combs. My bees are carrying in pollen every day and have been ever since January 5th. The queens are filling the center combs with brood as though it was April; I never before saw them so early rearing brood. I expect soon to commence stimulating them, until honey gathering is plenty so as to have them strong in numbers for the bloom; this is half the battle in bee-culture. W. N. CRAVEN.

Jonesboro, Ill., Feb. 3, 1880.

In the BEE JOURNAL for January 1 noticed an article on honey-dew written by Prof. A. J. Cook. About the 7th of last May, I noticed the glands he speaks of, on my peach trees. My attention was called to them by the great number of bees which frequented my orchard. The glands were situated upon the stem of the leaves, and were sometimes very large and all of them kidney shaped. The bees worked on this secretion till the end of May, when the poplar (tulip) tree bloomed. In August I noticed the same thing on the willows, but the bees did not work on them; only the yellow jackets, wasps, hornets, &c. The dew from the willow was of a very bitter sweet taste, that from the peach was very white and sweet. I intend to pay more attention to it next summer and will send Prof. Cook specimens of the leaves.

W. J. WILLARD.

[Such observations as the above will advance our art. Let us all be on the look out for these secreting plants. The glands are easily seen, as they are considerable elevations on the stem or blade of the leaf, and cannot escape close observation. The obvious tell-tales are the bees or other sweet-loving insects, which are attracted by the secreted nectar. The question is definitely settled that there is real honey-dew or special secretion from other parts of plants than the flowers. Let us see from what plants.—A. J. COOK.]

Crown City, O., Feb. 3, 1880.

On peeping out of the window this morning, over my apiary, to my surprise I discovered 6 inches of snow, making every thing look gloomy, after my bees had been, during January, bringing in pollen. Luckily 60 colonies were housed, since the last of December. Eleven were on the summer stands in 10 frame American and 10 in Langstroth hives, packed with white pine saw-dust, on the top and sides, all with plenty of honey, except 6 in-doors. I have read different modes of transferring. Now here is my plan: after the comb is taken from the old box, place the frame on the table and cut the pieces to fit; then turn the frame upon the broad side (speaking of American frame), and with strong spool thread wrap around and around, as often as need be, and carefully place them in the hive, and by the next day, the bees will cut the thread and carry it from the hive, thereby saving much trouble in taking clamps, and many other things used, from the hive. I have tried pegs, and hair wire, but give me the thread (200 yards for 5 cents). Our honey crop failed last summer, so I turned my attention to stocking my apiary with young queens. CHAS. S. NEWSOM.

P. S.—Bees are getting pollen to-day (Feb. 10), while the north hill-sides are covered with snow, and have been for a week. C. S. N.

Rockton, Ill., Feb. 8, 1880.

I see by *Gleanings* for February that Novice takes credit for the queen cage Prof. Cook took to Washington. I also see in the BEE JOURNAL that J. L. Harris is the inventor. Is he connected with *Gleanings?* Bees are doing finely in Northern Illinois. They had a number of good flights in January, which we think will keep them from spring dwindling. The honey crop was light last season, and there is no surplus honey left here. D. L. WHITNEY.

[The ruling of the Postal Department on the subject of sending queens in the mails may be found on page 121. The cage we sent by Prof. Cook to Washington, was the one made by Mr. J. L. Harris. He is not in any way connected with *Gleanings.* Novice also sent one, but Prof. Cook says, speaking of the Harris cage, "I think yours the best." He adds, the Novice cage "is stronger but weighs more." We have not seen the Novice cage and cannot therefore speak of it, from personal knowledge. The point of special importance is never to use honey in these cages, for feeding the bees, and to be sure to use the cage having the double-wire-screen cap. The Harris cage is now made much stronger than before.—ED.]

Park Hill, Ont., Feb. 9, 1880.

My bees are on the summer stands, packed in shavings from a planing mill. January was very mild, and the bees had a good fly. I think they will winter well now. D. P. CAMPBELL.

Fiskburg, Ky., Jan. 24, 1880.

I began the winter with 21 colonies, they are wintering well, so far. I have only lost one queen, as far as I have examined. I am wintering on the summer stands. We have had a very mild winter up to date; very wet and warm. Success to the AMERICAN BEE JOURNAL. J. F. ELLIS.

Watertown, Wis., Feb. 6, 1880.

From an editorial article on the "Sections all in one piece" on page 70 of the February number, the "public" may be led to think it is necessary to glue them. We do not recommend it, and all seem to be pleased who use them without glue. LEWIS & PARKS.

[We did not intend to convey the idea that glue was *absolutely* necessary. Of course they can be used without; but glue adds exceedingly to their strength. Perhaps experience will prove, however, that they will be sufficiently strong without—that the bee-glue will be all sufficient.—ED.]

Dundee, Ill., Feb. 11, 1880.

I have 84 colonies of bees in the cellar. They seem to be quite easy now, but have been very restless. Last season was a very poor honey season. I obtained about 1,600 lbs. from 30 colonies. I was obliged, on account of the extreme dry weather, to feed considerable of it back to them for winter. When they become uneasy in the cellar would it do, some warm and pleasant day, to let them have a fly, and then put them back? I am very anxious for spring to come, so that they can be put out. FAYETTE PERRY.

[Yes; it would be best to do so.—ED.]

Embarrass, Wis., Feb. 10, 1880.

We are having very mild weather for January, and there has been 3 flights for the bees; they are wintering finely so far. The average temperature for the month is 27°. We have had snow about one foot deep, and splendid sleighing. I was pleased to learn that the P. M. General had decided to let queens pass in the mails again, as I am so far from an express office that it is a great inconvenience to be obliged to depend on it to get queens, &c. Success to the AMERICAN BEE JOURNAL, and here is to the health of the Editor in nice honey, but not in any thing stronger. J. E. BREED.

Salamonia, Ind., Feb. 13, 1880.

My thanks are due to Prof. Cook and the committee appointed by the National Association at Chicago, for the results of their exertions to get queen bees again admitted to the mails. I read the last number of the AMERICAN BEE JOURNAL with more interest than ever. It increases in value with every number. My bees did well last season, but I lost 13 colonies during the previous winter, out of 18; the 2 remaining I increased to 15, and traded hives and queens for 4 more making 19, and obtained 250 lbs. of honey, mostly extracted. They are doing well so far, this winter. I wish all success to the BEE JOURNAL. DAVID R. KNOLL.

Fuller's Station, N. Y., Feb. 4, 1880.

On Dec. 5, 1878, I put 73 colonies in my bee-house; I lost 2, and united 2, leaving 70 with which to commence the season of 1879. I have sold 6,151 lbs. of unglassed comb honey and 488 lbs. of extracted, total 6,639 lbs. On Nov. 27, 1879, I put 83 colonies in the bee-house and left 19 on the summer stands.

W. S. WARD.

Burlington, Iowa, Feb. 11, 1880.

My bees have wintered well in the cellar. I shall have to feed considerably in the spring. I have 35 colonies. Thousands of colonies, in this locality, will perish for want of supplies before fruit blossoms come to their relief. If good syrup, made from "A" sugar will save mine, they shall not die.

I. P. WILSON.

Anderson, Iowa, Feb. 6, 1880.

The JOURNAL for February is here and much of its contents perused. How rapidly time flies; nearly a year has passed since I spent a day at the office of the JOURNAL, and closely examined its Museum of bee-keepers' supplies. I remember with pleasure the editor's kind and patient pains-taking, enumerating the advantages claimed for each article—for all of which accept thanks. How easy it is to write the accounts of the doings of the busy little workers when we sit in the sunshine of a golden harvest, but when heavy dark ones shadow a year's labor, how different? The year 1878 was a sunny one in this section, but in 1879 the clouds of disappointment never passed over. I commenced the winter 1878-9 with 80 colonies all in good condition. I packed 45 in chaff and straw on the most approved plan; 35 were left on the summer stands without protection. In the spring, 9 of those packed in straw had died, and 1 of those unprotected; leaving 70 colonies to commence 1879 with. I fed them a barrel of honey, for I always keep the poorest honey to feed with. By the time of basswood bloom they were in fine condition, but the seven-year locusts swarmed the woods, storing all the small limbs full of eggs, especially the basswood; as a result there was no honey, and the fall was very dry with no dews; the result can easily be imagined. I had but 160 lbs. of surplus honey and no increase. Would

not the author of "Blessed Bees" do a good work for humanity by giving a little of this side of the bee question, instead of such exaggerated statements to deceive the over credulous? I have 400 basswood trees on my place averaging from 6 inches to 2 feet, all large enough to bloom profusely. What number of colonies do you think will find employment profitably, with that supply of basswood? Would 100 colonies be over-stocking in your opinion?

WILLIAM MORRIS.

[Such a place ought to be sufficient to supply more than 100 colonies in ordinary seasons.—ED.]

Dowagiac, Cass Co., Mich., Feb. 10.

Bees in this section (Southern Michigan) are in prime condition. I have lost but one out of nearly 500, all outdoors, mostly packed, one way and another. Those not packed seem as strong as any. The lost colony was queenless, and entirely overlooked. I will whistle again when entirely "out of the woods."

JAMES HEDDON

Bloomington, Ill., Feb. 13, 1880.

1. Can brandy barrels be used for honey without being waxed, or can they be used at all?

2. Do you think it advisable to have the prize boxes (where separators are used) wider than two inches?

3. What is a queen yard? Is there any contrivance, by means of which a queen that has her wing clipped, is compelled to return to the hive with the returning swarm? H. W. FUNK.

[1. They can, but all hard-wood barrels should be waxed.

2. No.

3. A place used for queen-rearing is sometimes called a "queen yard." We know of no such "contrivance."—ED.]

Columbus, Wis., Feb. 11, 1880.

Bees in this locality gathered very little surplus honey during the past season. Many I fear will be short of food, in their winter quarters, unless fed. I commenced last season with 6 colonies and increased to 23; and had 5 swarms from one hive in 7 days. Is not this rather uncommon? Some think I am mistaken, but I saw them all come out, so I am certain of it. By a streak of luck, I succeeded in rearing 5 queens from the Italian queen I received from you. I made a nucleus which started 5 queen-cells; two of them I cut out and introduced to other colonies, after making them queenless for 48 hours. I opened the nucleus at the time for the other cells to hatch, and found a fine queen out and piping; and the other two cells were vacated by two fine queens in less than 5 minutes. I put them under tumblers with a few workers, and went to a couple of colonies and killed their queens at once and sprinkled the bees with peppermint water, as well as the young queens, and they were accepted nicely. Could any green hand have done better? I winter in a dry cellar. There is quite a number of extensive bee-keepers in this county. ERASTUS BOWEN.

Elk Rapids, Mich., Jan. 12, 1880.

My bees are in good condition, on the summer stands "packed" inside as well as outside. They have had several nice "play spells," January having started in quite spring-like. GEO. E. STEELE.

Myersville, Md., Jan. 26, 1880.

The Cook's Manual, I purchased of you, a year ago, exceeded my expectations, it was highly interesting and instructive, giving minute directions for all the manipulations of the apiary. It is just the thing for a beginner, even though he has only one or two colonies. I commenced with black bees 2 years ago. After reading Prof. Cook's description of the 11 points of superiorty which the Italians possess over the blacks I concluded to Italianize. Last June I procured of Mr. D. A. Pike, two beautiful Italian queens and successfully introduced them the same day. In about 23 days I discovered young bees with three yellow bands. I was so much pleased with the conduct of the queens and their progeny that I immediately ordered two more Italian queens and one Albino. On July 16th, I received, and successfully introduced them. They have all produced beautiful workers. I have often opened the hives without protection for hands or face, and shown them to visitors and friends who are delighted with their beauty and amiability. I have yet to receive the first thrust as a sign of resentment from them. I agree with Prof. Cook, I would keep only Italians or Albinos for their amiability, did that quality stand alone. W. R. YOUNG.

Poplar Bluff, Mo., Feb. 1, 1880.

My bees are doing finely, gathering pollen and breeding fast. This is a fine country for bees. Our bloom is poplar, basswood, gum, grape vines, maple, locust, boneset, iron weed, golden rod and white clover. The clover is a native of this climate; in the timber we have the blackberry and others too numerous to mention. W. N. CRAVEN.

Business Matters.

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We do not send goods by C. O. D., unless sufficient money is sent with the order to pay express charges both ways, in case not taken from express office.

Strangers wishing to visit our office and Museum of Implements for the Apiary, should take the Madison street-cars (going west). They pass our door.

In consequence of the dearth of small currency in the country, we will receive either **1, 2 or 3 cent stamps**, for anything desired from this office. We cannot use Canadian or other foreign stamps.

We will send a tested Italian Queen to any one sending us **FIVE** subscribers to the AMERICAN BEE JOURNAL with **$7.50.** The premium Queens will in every case be tested, but not sent till after July 1st.

Club names for the BEE JOURNAL may be sent to as many post offices as there are names in the club. Additions can be made to clubs at any time at the same rate. Specimen copies, Posters, and Illustrated Price List sent free upon application, for canvassing.

Seeds or samples of merchandise can be mailed for one cent per ounce, Printed matter one cent for every two ounces. These must be tied up; if pasted, they are subject to letter postage. *Don't send small packages by express, that can just as well be sent by mail.*

Our answer to all who ask credit is this: We sell on **small** margins, and cannot afford to take the risks of doing a credit business. If we did such a business, we should be obliged to add at least 10 to 20 per cent. more to our prices, to make up for those who would never pay, and to pay the expenses of keeping book-accounts with our customers—this we know our **Cash** customers would not think to their advantage.—This rule we must make general in order not to do injustice to any one. The cash system gives all the advantage to cash customers, while the credit system works to their injury. In justice to all we must therefore require **Cash with the order.**

☞ While in Europe we presented to Herr C. J. H. Gravenhorst, of Germany, a copy of Cook's Manual. We have received the following as his opinion of the book: "It is a most valuable work and one which no bee-keeper should neglect to read. It will in every way advance the science of apiculture."

☞ The Union Bee-Keepers' Association meets at Eminence, Ky., on April 1st, 1880. E. DRANE, *Sec. pro tem.*

The Cortland Union Convention will be held at Cortland, N. Y., on Tuesday, April 6, 1880. All interested in bees are cordially invited. C. M. BEAN, *Sec.*

☞ The Central Michigan Bee-Keepers' Association, will convene at the New Capitol in Lansing, April 15, 1880. An invitation is extended to all manufactors of apiarian supplies, who desire to exhibit their wares, to come and present them, or if consigned to the care of J. Ashworth, Pres., they will be exhibited. We expect a large meeting.

J. ASHWORTH, *President.*

Local Convention Directory.

1880.	*Time and Place of Meeting.*
April	1—Union Association, at Eminence, Ky.
	6—Fireman's Hall, Cortland, N. Y.
	29, 30—W. Ill. and E. Iowa, at Monmouth, Ill.
May	4.—N. W. Ill. & S. W. Wis., at Pecatonica, Ill.
	4, 5—Central Kentucky, at Lexington, Ky.
	5—Southern Michigan, at Battle Creek, Mich.
	25.—Northwestern Union, at Hastings, Minn.
Oct.	——National, at Cincinnati, Ohio.
	5, 6.—Northern Michigan, at Carson City, Mich.
	14—Southern Kentucky, at Louisville, Ky.
Dec.	8.—Michigan State, at Lansing, Mich.
1881.	
Feb.	2—Northeastern, at Rome, N. Y.

☞ In order to have this Table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

Honey and Beeswax Market.

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HONEY.—White clover, in single-comb sections, 16@18c.; when with more than one comb in a box, 2c. per lb. less. Extracted, 8@10c.

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CINCINNATI.

HONEY.—White, in single-comb sections, 15@17c. It retails very slowly on account of the increased price, which is above the views of consumers. The extracted sells readily—8@9c. C. F. MUTH.

SAN FRANCISCO.

HONEY.—Comb, 12½c.. Extracted, 7@10c. ℔ ℔. Market quiet and easy.

BEESWAY—20@23c. STEARNS & SMITH.

Bingham Smoker Corner.

Poplar Bluff, Mo., Jan. 21, 1880.

The Bingham Smoker is at hand; thanks for promptness. I would as soon think of living on two meals a day, as to be without a Bingham Smoker. It is cheap at ten dollars. W. N. CRAVEN.

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The purest and brightest yellow foundation made. Hives, Extractors, Uncapping Cans, Veils, Smokers, Pails, Jars. Knives, etc. Send your name on a postal card for circular and sample of foundation free.

CHAS. DADANT & SON,

3-8 Hamilton, Hancock Co., Ill.

For Sale Cheap.

200 Colonies of Italian Bees.

Having over 450 Colonies of Italian Bees, I will sell 200 in lots of 25, 50, 100 or 200 at $5.00 each, delivered on board of any Mississippi river steamboat. All the Queens are daughters of Imported Mothers, of different parts of Italy. ☞Dollar and Tested Queens now ready to ship. Comb Foundation, Apiarian Supplies, &c. Address,

3ml PAUL L. VIALLON, Bayou Goula, La.

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Italian Queens, Nuclei, &c.

Single Queen, Tested..... $2.00
" " Untested (laying) 1.00

By the dozen, 10 per cent. off of above prices. Queens sent by mail and postage prepaid.

3 frame Nucleus, Untested Queen..... $3.00
2 frame Nucleus, Untested Queen..... 2.50
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Sent by Express. Send money by P. O. Order or Registered Letter. Address,

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WILBOR'S COMPOUND OF

PURE COD LIVER OIL AND LIME.

Wilbor's Cod-Liver Oil and Lime.—Persons who have been taking Cod-Liver Oil will be pleased to learn that Dr. Wilbor has succeeded, from directions of several professional gentlemen, in combining the pure Oil and Lime in such a manner that it is pleasant to the taste, and its effects in Lung complaints are truly wonderful. Very many persons whose cases were pronounced hopeless, and who had taken the clear Oil for a long time without marked effect, have been entirely cured by using this preparation. Be sure and get the genuine. Manufactured only by A. B. WILBOR, Chemist, Boston. Sold by all Druggists.

We are wintering over many very choice HOME-BRED and IMPORTED

Italian Queens,

and expect to be able to fill all orders at an early date for **TESTED QUEENS** from **AMERICAN** and **IMPORTED MOTHERS.** The queen-cells are reared in full colonies, and only the best selected.

We will also take extra care in selecting and preparing for shipment of

Nuclei & Full Colonies,

WITH TESTED QUEENS.

For Prices, etc., see our Illustrated Catalogue. Write for it, if you have not received it.

Address orders early to

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ON SECTIONS.

Prize Boxes, per 1,000 ..... $5.00@5.50
4¼x4¼ Sections, dovetailed, per 1,000..... 5.50@6.00
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J. M. BROOKS & BRO'S.

Golden Italians.

Fine Tested Queens a specialty. **Send for Circular, and see what others say of them.**

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☞ **Full Colonies of Yellow Bees,** in the best condition; honey by the barrel or less.

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CHEAP BEES.

About 50 Colonies in good, Movable-Comb Hives, at $5.00 each. **E. A. GASTMAN,** Decatur, Ill.

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HEDDON'S CIRCULAR,

For 1880, is now ready. It gives prices and descriptions of those figured Spruce Sections and 2-comb Honey Boxes, his new Langstroth Hive, Full Colonies of

ITALIAN BEES,

SMOKERS, KNIVES, VEILS, GLASS, DUNHAM FOUNDATION, DOLLAR & TESTED QUEENS.

Also what he believes to be the best

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yet invented. Circulars sent only to those who request them. Send full address (include county) to

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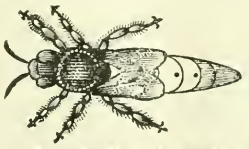
THE LATEST IMPROVED
COMPOUND-GEAR
Comb Foundation Machine.

No lost motion in the gearing—may be turned either way. The machine is warranted to do the work like the sample. The rollers are made of the best type metal. The prices are as follows:

No. 1—Rollers	12 inches	long,	4 in.	diameter	$75 00
" 2	" 12	"	3	"	.... 40 00
" 3	" 8	"	3	"	.... 25 00
" 4	" 6	"	2	"	.... 15 00

Sample of Foundation made on this machine sent on receipt of 3 cent stamp.

3 **C. OLM**, Fond du Lac, Wis.

1880.  1880.

REV. A. SALISBURY,

CAMARGO, ILL.,

Pure Italian Queens, Bees, Foundation Combs, Honey Extractors, Dunham Foundation Machines, &c. **Send for circular.** 3-8

SEND FOR PRICES OF

Langstroth Simplicity Hives, Sections, Frames and Comb Foundation,

Manufactured by

MERRIAM & FALCONER,

3-1t Jamestown, N. Y.

Hale's Price-List.

Send for my price-list of Bees, Queens, Nuclei, &c., for 1880. Early Queens a specialty. Address,

2-11 **E. W. HALE**, Wirt C. H., W. Va.

FOREMOST

in the rank of supply dealers.

J. H. NELLIS,

At the end of the first year in his large brick factory, would invite attention to his unexcelled facilities for supplying

Bee Hives, Honey Boxes, Shipping Crates, Bee Feeders, Honey and Wax Extractors, Knives, Queen Cages, Smokers, &c. Also,

Italian and Cyprian Queens,

Full Colonies, Nuclei, &c. We are positively headquarters for

COMB FOUNDATION.

We make and keep in stock Drone and Worker Foundation made on the Root Machine; also **FLAT BOTTOMED FOUNDATION**, both wired and the thin for boxes. We have just purchased a machine, and can manufacture and supply the **DUNHAM FOUNDATION**. We guarantee our Foundation to be as good as the best on the market.

We pay the highest cash price for beeswax, or work it on Shares. Our

Bee-Keepers' Exchange,

is a monthly, at **75c. per year**, six months for **38c.**; three months for **20c.** No live bee-keeper can afford to be without it.

Our price list is free to all, and is a cyclopedia of useful information. Write to

J. H. NELLIS,

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Sent Free!

Thoughts for Bee-Keepers,

Giving **BOTTOM PRICES** on all kinds of Bee-Keepers' Supplies. Address,

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CHEAPEST AND

BEST EXTRACTOR

Send $2.50, and receive the fixings complete, with printed instructions for inserting in a barrel, thus making as efficient an extractor as is to be found anywhere, without exception. Always send the outside measure of frames when ordering. This advertisement is for the whole season.

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H. H. BROWN, Light Street, Col. Co., Pa.

Italian Bees and Queens.—Send for Price List of Full Colonies, Nuclei, Queens, Bee Hives, Comb Foundation, and Bee-Keepers' Supplies generally. Satisfaction guaranteed. A. F. STAUFFER, Sterling, Whiteside Co., Ill. 3-1t

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WORKER COMB.—25 Extracting Hives, with frames 8x11, $1.00 apiece. Also, 15 volumes of the BEE JOURNAL, bound complete, at $1.00 a volume.

3-1t **D. C. MILLETT**, Holmesburg, Penn.

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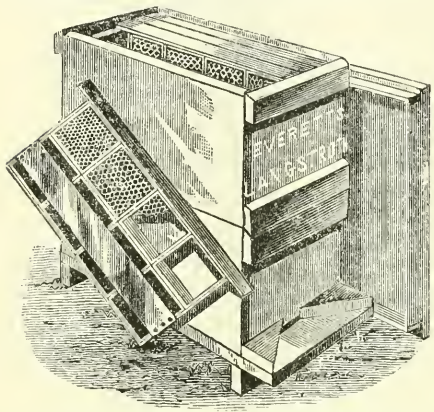
by the burning of our residence, January 31, 1880, our entire list of names, as well as correspondence, accounts, &c., we are unable to send out our new circulars for 1880, therefore, we ask one and all to send us their names and addresses.

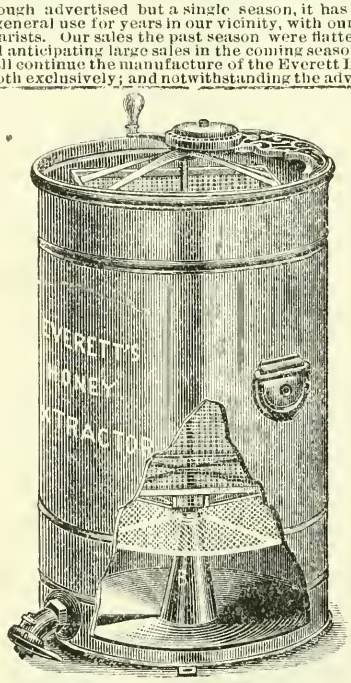
Everett's Honey Extractor

has been before the public until it needs no comment, but we wish to call special attention to



EVERETT'S LANGSTROTH HIVE.

Though advertised but a single season, it has been in general use for years in our vicinity, with our best apiarists. Our sales the past season were flattering, and anticipating large sales in the coming season, we shall continue the manufacture of the Everett Langstroth exclusively; and notwithstanding the advance



in the price of all kinds of materials, we shall adopt our very low prices of 1879 for this season. Our frames and inside dimensions of hives are the same as the Standard Langstroth as made by Novice and others. **Send for Circulars.** Address,

EVERETT BROS., Toledo, O.

The Crowning Culmination! A $5 Book for $2.50!!

MOORE'S UNIVERSAL ASSISTANT,

And Complete Mechanic,

Enlarged Edition, contains over **1,000,000** Industrial Facts, Calculations, Processes, Trade Secrets, Legal Items, Business Forms, etc., of vast utility to every Mechanic, Farmer, and Business Man. Gives 200,000 items for Gas, Steam, Civil and Mining Engineers, Machinists, Millers, Blacksmiths, Founders, Miners, Metallurgists, Assayers, Plumber, Gas and Steam Fitters, Bronzers, Gilders, Metal and Wood Workers of every kind, Builders, Manuf'rs and Mechanics. 500 ENGRAVINGS of Mill, Steam, and Mining Machinery, Tools, Sheet Metal Work, Mechanical Movements, Plans of Mills, Roofs, Bridges, etc. Arrangement and Speed of Wheels, Pulleys, Drums, Belts, Saws, Toring, Turning, Planing, & Drilling Tools, Flour, Oatmeal, Saw, Shingle, Paper, Cotton, Woollen & Fulling Mill Machinery. Sugar, Oil, Marble, Threshing & Rolling Mill, do., Cotton Gins, Presses, &c. Strength of Teeth, Shafting, Belting Friction, Lathe Gearing, Screw Cutting, Finishing Engine Building. Repairing and Operating, Setting of Valves, Eccentrics, Link & Valve Motion, Steam Packing, Pipe & Boiler Covering, Scale Preventives, Steam Heating, Ventilation, Gas & Water Works, Hydraulics, Mill Dams, Horse Power of Streams, etc. On Blast Furnaces, Iron & Steel Manufacture. Prospecting and Exploring for Minerals, Quartz and Placer Mining, Assaying, Amalgamating, etc. 461 TABLES with 500,000 Calculations in all possible forms for Mechanics, Merchants and Farmers, 800 items for Printers, Publishers and Writers for the Press. 1,000 items for Grocers, Confectioners, Physicians, Druggists, etc. 300 Health items. 500 do. for Painters, Varnishers, Gilders, etc. 500 do. for Watchmakers & Jewelers. 400 do. for Hunters, Trappers, Tanners, Leather & Rubber Work. Navigation, Telegraphy, Photography, Book-keeping, etc., in detail. Strength of Materials, Effects of Heat, Fuel Values, Specific Gravities, Freights by rail and water—a Car Load, Stowage in Ships, Power of Steam, Water, Wind, Shrinkage of Castings, etc. 10,000 items for Housekeepers, Farmers, Gardeners, Stock Owners, Bee-keepers, Lumbermen, etc. Fertilizers, full details, Rural Economy, Food Values, Care of Stock, Remedies for do., to increase Crops, Pest Poisons, Training Horses, Steam Power on Farms. LIGHTNING CALCULATOR for Cubic Measures, Ready Reckoner, Produce, Rent, Board, Wages, Interest, Coal & Tonnage Tables. Land, Grain, Hay, & Cattle Measurement. Seed, Ploughing, Planting & Breeding Tables, Contents of Granaries, Cribs, Tanks, Cisterns, Boilers, Logs, Boards, Scantling, etc., *at sight*. Business Forms, all kinds, Special Laws of 19 States, Territories and Provinces (in the U. S. and Canada), relating to the Coll. of Debts, Exemptions from Forced Sale, Mechanics' Lien, the Jurisdiction of Courts, Sale of Real Estate, Rights of Married Women, Interest and Usury Laws, Limitation of Actions, etc.

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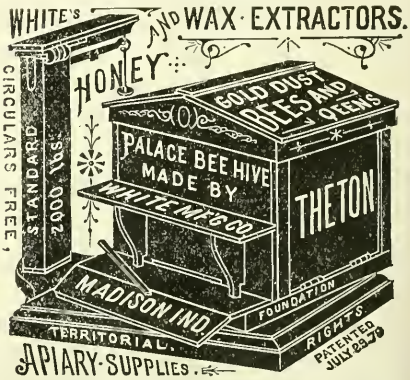

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1-3¶ JULIUS HOFFMAN, Fort Plain, Mont. Co., N. Y.

MANUAL OF THE APIARY,

By A. J. COOK,

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286 pp. large 12mo. ; 112 Illustrations.

It comprises a full delineation of the anatomy and physiology of the honey-bee, illustrated with costly wood engravings—the Products of the Honey-Bee ; the Races of Bees ; full descriptions of honey-producing plants, trees, shrubs, etc., splendidly illustrated—and last, though not least, detailed instructions for the various manipulations necessary in the apiary.

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4¼x4¼ section boxes, per 100, 50c...per 1000...$5 00
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Good Colonies of Italian Bees, in 8-frame Langstroth Hives, in May, $8.00 ; 2 for $15.00 ; 10 and over, $6.00 each ; after May, $1.00 less each colony. Take your choice at the price.

Tested Queens, from Imported Mothers, in May, $3.00 ; after May, $2.00. Untested Queens, in May, $1.50 ; after May, $1.00.

I have had 23 years' experience with bees in Langstroth hives, and 17 with Italian Bees and have been extensively engaged in the bee business for 11 years. I have now nearly 700 colonies. I have manufactured my own supplies for a number of years with steam power ; though I have been engaged in other pursuits. I now intend to make the bee business and its connections a specialty. With my experience, and no other business to look after, I think I will be able to satisfy my customers in every particular.

Comb Foundation manufactured by the pound and on shares.

My facilities for shipping are such that orders can often be filled the same day they are received. To those who may favor me with their patronage, I will try and make it a mutual advantage to us both.

Cash must accompany the order. All my goods warranted.

Cash paid for beeswax. Honey bought and sold.

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with high sharp side-walls, 10 to 14 feet to the pound, HAS BEEN USED the past season in FULL SIZE SHEETS in Surplus Boxes, adding LARGELY to the YIELD and to MARKET VALUE of the honey.

The wired foundation does not sag, and gives general satisfaction.

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Excelsior Honey Extractor

Sizes and Prices:

No. 1.—For 2 Langstroth frames, 10x18 inches... $8 00
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" 3.—For 2 frames, 13x20 inches or less 12 00
" 4.—For 3 " " " " 12 00
" 5.—For 4 " " " " 14 00

Having made many improvements in the EXCELSIOR EXTRACTOR for 1879, it is now offered to the Bee-Keepers of America as the MOST PERFECT MACHINE in the MARKET. The universal favor with which the EXCELSIOR EXTRACTOR was received in 1878, has induced other manufacturers to adopt several of its improvements. My experience and experiments of last season, with the assistance and suggestions of skillful workmen, have enabled me to perfect an Extractor that **cannot be excelled, and can only be equaled by being closely imitated.**

Some of its advantages are as follows : It is made entirely of metal, It is light, but has attachments for fastening down to a platform. It can be instantly taken to pieces for cleaning, having no rusty screws to take out or nuts to remove.

The top or cross-band, to which is attached the gearing, is wrought iron, three inches broad, with the ends turned down in such manner as to thoroughly brace and strengthen the can and hold the basket firmly in an upright position.

The strong over-motion gearing, so necessary to ease in running and speedy operating, was designed and is manufactured expressly for the Excelsior. A child ten years of age can operate the machine as rapidly as it can be supplied with combs.

The Comb Basket having vertical sides, insures the extracting power alike for top and bottom of frames. The sides of the basket being movable and interchangeable, greatly facilitate the operation of dusting before and thoroughly cleaning after use.

It has a small comb-holder for extracting pieces of comb or partly-filled sections.

At the bottom of the can, and below the basket, is a cone or metal standard, in the top of which revolves the bottom pivot of the basket, thereby giving room for sixty or seventy pounds of honey without touching the basket or pivot below.

Nos. 3, 4 and 5, have neatly-fitting covers, movable sliding sides to the baskets, and movable strainers covering the canal to the faucet, whereby all honey can be drawn off without a particle of sediment.

The baskets of Nos. 4 and 5 have no center rod running from top to bottom, which will be found very convenient by those who uncap both sides of the comb before putting in the basket, as they can be turned without removal.

The wire baskets are very neat specimens of skillful workmanship, thoroughly braced at every point where experience has proven it to be most requisite, and nothing has been omitted that could add to its efficiency.

The No. 4, for **three** frames, has a triangular basket, movable sides, no center rod, runs smoothly regardless of number of frames, and is fast superseding the demand for four-sided baskets.

A LOWER PRICED MACHINE

being called for by those having but few colonies, and not making a specialty of bee-keeping, I have made a special size to take the Langstroth frame, and one for the American, to sell at **$8.00** each. These have no covers or strainer, and are smaller than the $12.00 and $14.00 sizes, but for the frames named are equal to the others for effective work, and are the **best cheap Extractors made.**

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Address, **C. C. COFFINBERRY,**
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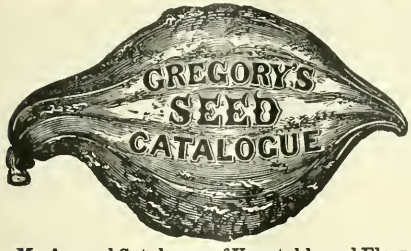

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A SMALL FARM OF 30 ACRES, with a good orchard, house, and good well of water. Also, an **APIARY** that will be sold very low. **BEES** to sell at $3.00 to $6.00 per colony. Address,

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My Self-Hiving Apparatus

Will hive your bees, without your attention or assistance, and will not fail one time in one hundred. See American Bee Journal for January, 1880, page 56.

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☞ The highest price paid for Beeswax.

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Leather-Colored Italian Queens.—Full Colonies, $10.00 ; Yearlings from old colony, $4.50 ; Warranted Tested Queens, $3.50 ; 3-Combs Nuclei, 8-frame Hive, $4.00 ; Laying Queens, $2.50. Address,

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We make the **LEWIS SECTION,** all in one piece—the **FINEST IN THE WORLD.**

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IN THE UNITED STATES.

As I make Queen-rearing a specialty, I guarantee to those ordering from me, just what they bargain for. ☞ Circulars free. Address,

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Our new invention of a

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Smoker is pronounced the finest improvement ever made on smokers. No more sparks or ashes in the hive. Doolittle says : "The arrangement to change the draft so as to make it a cold-blast, after the fire is kindled, places it ahead of any smoker in the market by a long way." So say all who see and test it.

Don't fail to see an illustration and description of it. Prices—Large, 2½ inch tube, $1.50 ; medium, 2 inch tube, $1.25 ; small, 1¾ inch tube, without double-blast attachment, 75 cents. Dust box and extra nozzle with large size, 25 cents extra.

By mail, **25 cents extra** each.

Quinby's New Bee-Keeping,

By L. C. ROOT.

This is the most practical work published. It contains 100 illustrations, including an excellent portrait of M. Quinby. Price, by mail, **$1.50.**

We sell everything used by practical bee-keepers. Send for our illustrated circular.

L. C. ROOT & BRO.,
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Our facilities for manufacturing Hives, Crates, Sections, &c., are first class. Before ordering, tell us what you want ; we can do you good. We furnish Comb Foundation, Extractors, Smokers, Knives, &c. Queens, Nuclei and Full Colonies a specialty.

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Eighteen years' experience in propagating Queen Bees from imported mothers from the best districts of Italy. Persons purchasing Queens or Colonies from me will get what they bargain for. Send for circular.

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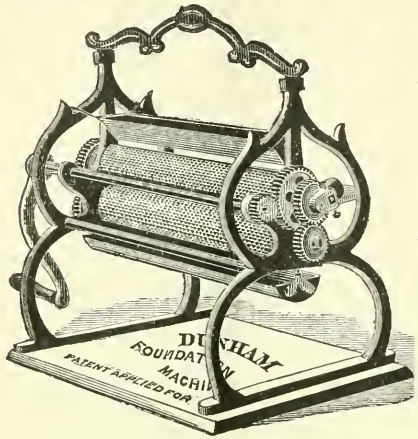

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Inventor and Sole Manufacturer of the

Dunham Foundation MACHINE.

12 inch rolls			$57.00
9	"	"	38.00
6	"	"	27.00
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All Articles Necessary in the Apiary.

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Dunham Foundation a Specialty.

☞ Circular and Samples free. ☜

DEPERE, BROWN CO., WIS. 2-6

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Brother Bee-Keepers: I will have my **NEW COMB-REVERSING EXTRACTOR** (extracts both sides by reversing machine), ready for the market in March. Also, a full assortment of the best Apiary Supplies cheaper than ever.

☞ Descriptive Catalogue sent free to any address.

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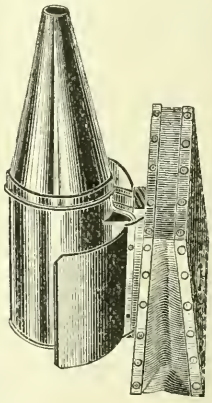
N. B.—For the convenience of American Bee-Keepers, I have completed arrangements with parties in Buffalo, N. Y., to manufacture my Extractor for the United States. 2-7

Land in Florida for Sale.

Timber Land in Northern Florida—640 acres—about 50 miles south of the Georgia line, 25 miles west of Tallahassee, and near the Apalachicola river. Title clear and unincumbered. Will sell cheap for cash, or trade for a farm, apiary or other property. Address, with particulars, FLORIDA LAND, care AMERICAN BEE JOURNAL, Chicago, Ill.

THE ORIGINAL DIRECT-DRAFT OR

BINGHAM PERFECT SMOKER.



Patented Jan. 9, 1878. Re-issued July 9, 1878.

If you buy a Bingham Bee Smoker you are sure of the best and cheapest, and that you are not liable to prosecution for its use. The largest and most scientific bee-keepers use Bingham Smokers, some using as many as fifteen in their various apiaries.

No Bingham Smoker has ever been returned. No letter has ever been received complaining that our Smokers did not give entire satisfaction; but we have received hundreds of letters expressing the most unbounded satisfaction and preciation of our invention.

The Extra Large Smoker and the Extra Standard for 1880, will have our new extra wide shields, which entirely protect the hands and bellows from heat and remove the danger of burning the fingers. Practical bee-keepers will find these wide shields an important improvement. The Plain Standard and Little Wonder Smokers will be better than ever before, and superior to any imitation smokers, whatever their size may be.

Hundreds of them have been in constant use three seasons, and are now as good as new. One dollar and a half is not much for the use of such an instrument three seasons; is it?

BINGHAM & HETHERINGTON

HONEY KNIFE.

Patented May 20, 1879.

It is a large, strong, durable knife, polished and tempered like a razor, and so formed and sharpened as to cut both ways, over hills and through hollows all the same, without dropping a cap on the honey. The most world-renowned, practical and scientific Bee-Keepers in Europe and America pronounce it "the best Honey Knife ever made."

Extra Large Smokers	2½ inch,	$1 50
Extra Standard Smoker	2 "	1 25
Plain Standard Smoker	2 "	1 00
Little Wonder Smoker, $3.00 per half-dozen; each	1¾ "	75
Bingham & Hetherington Knife		1 00
Bingham & Hetherington Knife and Cap-Catcher		1 25

If to be sent by mail, or singly by express, add 25 cents each to prepay postage or express charges.

☞ Send for circular. If to sell again, apply for dozen or half-dozen rates. Address,

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THE AMERICAN

BEE JOURNAL

Devoted Exclusively to Bee Culture.

Vol. XVI. CHICAGO, ILLINOIS, APRIL, 1880. No. 4.

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Editor's Table.

☞ It is reported that fruit men in California are making an effort to secure the passage of a law to prohibit the keeping of bees within a prescribed distance of vineyards and orchards.

☞ A correspondent asks if we approve of 8 frames 10x18 for a hive. We prefer the standard Langstroth frame, 9⅛x17¾ outside measure. There is no use of variation for so small a difference.

☞ We attended the Bee-Keepers' Convention at Andover, O., on Feb. 25th, and though the weather was exeeedingly disagreeable, and the roads almost impassable, we met quite a number of the progressive apiarists of that region and had an interesting meeting.

☞ Mr. J. T. Davis, Buckland, Mass., writes that he transferred a colony from a box hive to a movable-frame hive on March 5th, which is doing nicely. He adds ; "that is something that cannot be done every year, here in New England ; the thermometer indicated 66° in the shade on that day." True, that was early work for that locality.

☞ "A good name is better than riches." We notice a very complimentary notice in the Dowagiac *Republican* of March 17th, of Mr. James Heddon. Two instances are given showing his high standing as an honorable man at home and abroad. He sold 4,000 lbs. of honey in Chicago last month, and before shipping a pound of it, the person who bought it gave him checks for $500—exhibiting substantial confidence in his honor, as well as his standing in the community.

Why? What evil has he done?

In the excitement which usually follows an harangue against any individual, the language of the above heading is seldom heard. The "leaders" are intent upon "exciting the passions"—not upon causing diligent inquiry. It appears that such was the case at the Utica Convention, where the resolutions condemning us and the BEE JOURNAL were passed. But two persons (according to the official report) made any attempt to stay the proceedings long enough to obtain a statement of the other side of the case. Whoever heard of a "court of justice," in a free country, condemning even the most hardened criminal, without first giving him an opportunity to be heard in his own defense? But there they condemned us in *hot haste*, without even notifying us or our friends that they contemplated such action. That this was intended, at least two months previously, is proved by the fact that the essay containing the attack was placed on the programme, and published in the BEE JOURNAL for Jan., page 54. They used a large space in the very paper they sought to destroy, to advertise, without pay, the programme of the meeting, and issued ten thousand programmes (or promised to do so) and obtained advertisements from our friends as well as ourselves, to pay the expense of printing and mailing them.

The author of the attack has written several times to this office, within the past three months; yet he gave no word of warning, nor appeared to be other than on the most friendly terms with the JOURNAL and its editor.

Many New York apiarists have written to us, stating that they did not endorse the action of the Convention. The following letter from that State will speak for itself:

Callicoon, N. Y., March 13, 1880.

DEAR EDITOR.—I have been a subscriber to the BEE JOURNAL for years, and pronounce it the ablest and best periodical devoted to apiculture—the noblest of them all. What can you have done to merit the unqualified censure heaped upon you by the Northeastern Convention, as reported in the *Bee-Keepers' Magazine?* As a disinterested party, allow me to say I do not think you deserve such treatment, and of having the epithets of "*fraud*" and "*rascality*" applied to you. Does the work you have done for bee-keepers, both in America and Europe, merit such treatment? It pains me much to see such ingratitude, and I call for the "yeas" and "nays" from the whole body of apiarists, on the Resolutions which the few misguided individuals passed at Utica. I was invited to attend that Convention, with an essay; had I been present, there would have been some lively talk. *Vive la* BEE JOURNAL! A. E. WENZEL.

What have we done? *Nothing*, but to devote our time, talents and money to advance the science of apiculture. *Nothing*, but to work hard for the interests of bee-keepers, laboring for their prosperity and harmony. *Nothing*, but to try to do our duty to our fellow beings as well as ourselves. If the prejudiced and misguided, become jealous of the honors we have received while in the discharge of these duties, we shall neither complain, nor "rest from our labors" till life's work is done! They may "cast out our name as evil," or "say all manner of evil against us *falsely*," still we shall be "blessed" with the approval of all right-minded and honest-hearted individuals as well as our own conscience.

I want not wealth, nor fame, nor power—
I want to feel, deep in my heart,
I've acted well my humble part;
And when my busy course is run
I want the verdict given—"Well done!"
"In works of good, his hours were spent
His deeds shall be his monument"—
All this I want, and nothing more.

☞ Concerning the use of electricity in quieting bees, as described by Herrn Freiwirth, on page 133 of the BEE JOURNAL for March, let us say that he is *experimenting*. Let no one run away with the idea that it is approved by the BEE JOURNAL simply because the experiments are there detailed by Mr. Freiwirth. We are by no means convinced that such are *safe* methods of controlling bees, but our columns are always open for the description of new methods and experiments, hoping by so doing to advance the science of apiculture. If we published only *old* methods, we should stand in the way of *all* improvements and advances in our art.

The Langstroth Fund.—We have received from C. N. Abbott, Esq., editor of the *British Bee Journal*, the amount subscribed in England to the fund ($31.37) and this together with the amount subscribed and paid in this country, we have sent to Mr. Langstroth, which is duly acknowledged by the following letter:

Oxford, O., March 2, 1880.

DEAR FRIEND: Your letter enclosing check for $62.62 was duly received. I am still suffering greatly from my head—unfit for any mental effort—and unable to take any interest in my once favorite pursuit. I feel under very deep obligations to you for all the kind efforts which you have made in my behalf. The money so kindly contributed by friends at home and abroad has been of very great help to me. I have received nothing on the subscription except through you.

Very truly your friend,
L. L. LANGSTROTH.

With the amount acklowledged on page 534 of the December JOURNAL, this makes $182.62. There are a few more subscriptions, not yet paid, which we hope to receive soon, and will duly transmit the amount to our afflicted friend.

☞ *Fun*, a London comic-paper, for February 4th, contains a cartoon entitled "the swarming of bees." There are two straw hives on a stand or table, representing the two houses of Parliament and Her Majesty holding a sceptre in her right hand and a frying pan in her left, standing in front of them, saying "Let us hope that there will be more honey and less wax in the hives this season."

☞ M. M. Baldridge, of St. Charles, Ill., has made an arrangement with C. O. Perrine, of this city, to take charge of 200 colonies of bees during the coming season. The bees at present are near New Orleans, but they will be moved by cars to Illinois early in April, so as to be on hand for the honey crop from white clover and basswood. In the fall the bees will again be taken South, so as to escape the long cold winters of the North.

☞ The *Freidenker*, a prominent German paper, published at Milwaukee, Wis., by Carl Dorflinger contains the following notice of Cook's Manual:

"Cook's Manual of the Apiary holds in America the same high rank, that is accorded in Germany to the book of which Dzierzon is the author; the only difference being that Prof. Cook's Manual combines the profoundness of the German pastor with the superiority of the practical American. The author refers in several instances to Darwin; and does not belong to that class, which hates everything that is foreign, for he speaks of German naturalists with great reverence."

☞ "A dangerous and infectious disease among bees (foul-brood) is reported from Italy. It is caused by a microscopical fungus, and spreads with alarming rapidity. However, winter is not a favorable season for its propagation, and salicylic acid solution is said to be an infallible remedy against the disease." The above is copied from "Nature" (London Magazine) for December 18, 1879, and sent us by Mr. J. Matthew Jones, of Halifax, N. S. We are sorry to learn that this much dreaded disease has made its appearance among the bees in Italy.

☞ We have just received a letter from Herrn Andreas Schmid, who for many years has so ably edited the *Bienen Zeitung*. We regret to learn that he has been ill for some time since we met him at the Austro-German Congress in Prague. He is now convalescing.

☞ The Editor of the BEE JOURNAL has accepted an invitation to be present at the Rock River Valley Convention, to be held at Davis Junction, Ill., on May 18th. He will deliver lectures on the subjects selected by the committee of arrangements.

Honey Cookies.—One pint honey; one-half cup butter; one cup sweet milk; two eggs; one-half a grated nutmeg. Beat the eggs and honey together until they froth, then add the butter and milk; use yeast powder with the flour.

☞ One year ago we decided not to notice the unkind personal allusions then being made in a contemporary, and requested our correspondents to omit as much as possible all offensive personal allusions. In this paper we have answered some charges and misstatements made by a Convention, but in order to do so, we were obliged to use some personalities, but endeavored not to use offensive ones. We desire to keep the JOURNAL above such personal strife. It has, however, been stated in public print that we objected to such personal allusions, simply because we were "cunning and crafty enough to know" that this onslaught was to be made—and because we *could not* reply, &c. The present JOURNAL will probably disappoint them in this particular. In the same connection they assert that we have not sufficient "*brains*" to do so. Well it is so hard to please them—one minute we are so "cunning and crafty," and the next we have no "brains"—that we fear we shall be all the time disappointing them, in the one capacity or the other.

☞ Just as the last form is going to press, we have received a letter from Mr. D. A. Jones bearing date Feb. 17th, from Corfu, Ionian Islands, in Greece, who is on his way to Cyprus. He has visited the bee masters of Europe, and is very much elated concerning the Cyprian bees. We shall hear further from him in time for our next JOURNAL.

☞ In *Gleanings* for last month, Mr. R. C. Taylor calls attention to an article on "uniting bees," by C. F. D., of Niles, Ont., on page 407 of the BEE JOURNAL for last September, saying it was mostly copied from Mr. Root's article on the same subject in *Gleanings* for October, 1877. This is true. We have also noticed several articles written by the editor of the BEE JOURNAL, lately copied into other papers, and credited to or signed by others. Neither Mr. Root nor ourselves object to having our articles copied, but credit should always be given, to make it an honest transaction.

☞ Mr. J. H. Maatman asks: "How can I prevent bees robbing each other?" To close up the entrances so that but a single bee can pass at a time, will usually prevent robbing. If it cannot be thus controlled, it would be well to move the colony preyed upon into the cellar for a few days.

☞ Mr. N. Levering, Los Angeles, Cal., has sent us a sample of sugar made from honey, which is very nice and of light color. We fail to see how its manufacture can be made profitable, however, for the honey necessary to make the sugar is more valuable as honey than sugar. Mr. T. S. Bull, some three years ago, sent us a small box of such honey sugar. We would like to learn whether it *can* be made profitable as a commodity. Can Mr. Levering give us light on that point?

☞ Mr. W. B. Weatherbee, of Mass., writes: "If I had obtained the BEE JOURNAL ten years ago, it would have been worth hundreds of dollars to me."

☞ Mr. H. L. Lankton, Weathersfield, Conn., says in answer to H. W. F., on page 152 of March JOURNAL: "I have used queen yards for the past years, as described by Quinby in his old edition, and find them advantageous, as my business takes me away from home in the day time."

WIRE CLOTH FOR HIVE BOTTOMS.—Mr. P. Moyer, Clark, Pa., wishes to hear from any one who has used wire cloth for the bottoms of hives. He says:

"If bottom packing is beneficial, wire may be used to separate it from the bees in winter, and in summer take out enough for ventilation. It may bother the bees to travel over it, unless only a little was used in a hive, and that put in the back part of bottom. How much is needed for ventilation? In the Quinby hive (some years ago) it had 72 square inches. I do not know how many are in the latest style of that hive. I once saw a hive with the whole bottom made of wire cloth; did not see any bees in it. Thought then it was rather airy. If the carbonic acid gas goes out at the bottom (some say it does not, but goes any or all ways) that hive could not be beat in ventilation much."

☞ Bees cannot rear brood without pollen; if they have but little or none, place rye meal in some warm sheltered spot, so that they can get it. They also need water. See that both are within their reach. Feed all needy colonies.

☞ From Berlin comes the official announcement, that His Majesty, the Emperor William, has presented to Herrn Emil Hilbert, residing on his estate at Maciejewo, near Otloczyn, the royal order of the crown, for his services in discovering a scientific method for curing "foul-brood" among the bees.

Truth is Mighty, and Will Prevail.

Since the death of the lamented Quinby, the North-Eastern Convention appears to have fallen into the control of fault-finders. Only one meeting has intervened since that body, by solemn *Resolves*, condemned the *Bee-Keepers' Magazine* and *Gleanings in Bee-Culture!* The former, because it favored selling honey without being glassed, and the latter because its editor said that the placing of honey upon the market at a somewhat reduced price would increase the demand—and thus benefit the producer. Time (that great leveler) has demonstrated both positions right, notwithstanding the condemnation by these self-constituted judges!

At the Utica Convention the following denunciations of the BEE JOURNAL and its editor were passed:

Whereas, The bee-keepers of America have demanded a bee journal published purely for the interests of the producer and with a view of advancing the science of apiculture; a journal whose editor was disinterested in the manufacture and sale of supplies for the apiary, in every manner or form; and

Whereas, The AMERICAN BEE JOURNAL has betrayed the confidence of the honey producer, under the guise of disinterestedness, when in fact its editors are among the largest supply dealers in America; and

Whereas, The AMERICAN BEE JOURNAL has unjustly charged bee-keepers with fraud in adulterating comb honey and is depreciating the value of honey to the detriment of producers; and

Whereas, The editors of the AMERICAN BEE JOURNAL control convention reports, publish quotations for honey and mutilate articles and correspondence so as to further their own interest, and best serve their personal ends; and

Whereas, Said Journal has taken arbitrary measures, to the detriment of those interested, while we recognize the fact that periodicals devoted to apiculture should be the mediums through which every contributor should have a voice and all receive mutual benefit; therefore,

Resolved, That the Northeastern Bee-Keepers' Association, in convention assembled, do most emphatically denounce the course pursued by the AMERICAN BEE JOURNAL; and

Resolved, That we endorse the efforts put forth by the Northwestern Ohio Association in exposing fraud and rascality, and their efforts to organize a co-operative bee journal; and

Resolved, That this association hereby demands a journal that is co-operative in principle, and managed for the the sole interests of the honey producer at all times, and disinterested every way in the manufacture or sale of supplies for the apiary; a journal that will give reliable and accurate market quotations of our products for all the leading markets, and whose columns are always open to every contributor; and

Resolved, That this association pledge a hearty support to such a publication; and

Resolved, That the secretary of this association be instructed to correspond with, and invite the co-operation of sister societies and apiarists in bringing about the desired end; and

Resolved, That these resolutions be recorded on the minutes of the association.

The report, as signed by the Secretary, states that "about one hundred members were present." A daily paper from Utica, which published the resolutions, states that only 19 votes were given in favor of them. Putting the two statements together, we learn that those who took no part against us, and those who voted against the resolutions were *five* to *one!* Not so bad a showing after all the efforts put forth by the opposition.

A little historical explanation may be interesting here. In 1876 we were entreated, as a public convenience in this great metropolis of the West, to keep a stock of supplies for the apiary. In 1877 we did so, buying all supplies from manufacturers, and, of course, selling only such as were called for by our customers, and we still continue to buy everything ready-made as we have before stated. Last summer the father of the co-operative paper scheme employed a detective to watch our establishment in order to find something to quarrel with us about, and thus further the objects of the new co-operative enterprise. He went to the manufacturer of the Excelsior Extractor, and made the wonderful discovery that we bought from him direct, and paid him for them! a thing we never denied, nor wished to conceal. By an arrangement with the inventor, who unfortunately had not the means at command to invest in a large stock of them, we bought directly of the manufacturer, and paid the inventor a royalty regularly every month, and have receipts from him for every one we have sold. This perfectly legitimate transaction is distorted into a crime!

Should we at any time desire to manufacture supplies for the apiary, we have a perfect right to do so, and may hereafter exercise that privilege, if we deem it to the advantage of our patrons or ourselves.

One of the resolutions states that we have charged bee-keepers with fraud in adulterating comb honey, and that we are depreciating the value of honey, etc. This is *amusing*, in the light of the fact that we have, during the past year, spent months of time and many hundreds of dollars, endeavoring to create a demand *for* honey, and open up new avenues and markets for its consumption.

The sentence about the adulteration of comb honey refers to the article from the *Board of Trade Gazette*, published in Jan., 1879, and Mr. Dadant's and our comments concerning it. In the February number, (p. 51), Mr. Thurber, in an article stated that the item in the *Gazette* was gotten up by a "jealous rival," and was untrue. We then and there remarked as follows:

We are exceedingly glad to be assured by Mr. Thurber, that the cargo of honey has not been confiscated. His language is explicit, and allays our fears—he says, *nothing of the kind ever happened.*

Now, a year after this error was fully explained, we are denounced for the former, and no notice taken of the latter; the Secretary remarking to the Convention that he sent us a contradiction of the "base assertions," and that we refused him a hearing, and "continued to heap accusations upon the producers," though not a word concerning it has since appeared in the JOURNAL. The Secretary sent us a very abusive article, and demanded its publication exactly as written, or its immediate return to him. Being evidently written for the purpose of having it returned, we did so, with the following courteous explanatory letter:

Chicago, Jan. 27, 1879.

Mr. Geo. W. House: Dear Sir—Yours came duly to hand. A letter from Mr. F. B. Thurber says the report was gotten up by a malicious and jealous enemy of their house, and he has an article in the February number concerning it. Am exceedingly glad to hear that it is not adulterated and confiscated as reported. There will be no need of publishing your article now.

THOS. G. NEWMAN.

In the above we did not even hint at the abusive language in the article, and thus sadly disappointed the young man who now assails the JOURNAL thus:

How have the contributors of the AMERICAN BEE JOURNAL been treated? It is a fact that articles are mutilated to correspond with the views of the editor or his friends, without any reasons for so doing. What would you think if you knew your articles were first sent to Bingham, Clute, Doolittle & Co., for their approval or disapproval? Communications that will further their interests are highly endorsed and published, while those in conflict with his ideas are destroyed. Apiarian supplies that pay the highest commission, get the best endorsement, while those articles over which he has no control are kept from the public. See *British Bee Journal*, Dec. No., page 161, in relation to cost of flat-bottomed foundation machines.

The fact that we have published hundreds of articles which we do not approve, disarms this charge. We are obliged to "fix up," and often "copy" articles sent us for publication, and nearly all our contributors urge us to do so; but have never knowingly changed an idea of the writer. We have had many letters similar to the following private note from Mr. Alley, just received, who, we hope, will pardon its use here as a sample:

Wenham, Mass., March 11, 1880.

Friend Newman: I send you a rough manuscript, but as it is unlike anything you ever received, I guess you can make it all out, and make it appear well when in print. You can do as well in that line as any one I ever saw. H. ALLEY.

The intimation that we send the articles of our correspondents to the gentlemen named, and unless they are approved by them, we refuse to publish them, is as contemptible as it is false. Let the following letters settle that point:

Otsego, Mich., March 13, 1880.

Mr. Editor: I have read the arraignment by Mr. House, in which my name figures as one of the trio, or tribunal, to which communications written for the BEE JOURNAL are said to be submitted. I know not what the others may say, but as for myself, *I have never been so honored or thus consulted.*

In relation to controlling convention reports, I can only speak for the Michigan Convention, and state that all the reports I have furnished as its Secretary, to the AMERICAN BEE JOURNAL, have been published as reported.

The true way to change the management of the North American Bee-Keepers' Society is to attend its meetings, or petition it, if parties feel aggrieved. It is, to say the least, in *questionable* taste to arraign its President for the manner in which he conducts his private business, so long as he fills the chair with acknowledged honor.

Further, it affords me great pleasure to know that the inventor of improved Bee Smokers did not contribute a five or ten dollar advertisement to the programme and invitation to the North-Easiern Convention, as solicited by its honorable Secretary; and that I did not enter a "Bingham Smoker" for premium, where interested officers appointed the judges. It is true, as the report states, that "Bingham's new style smokers were on exhibition," but it was in J. H. Nellis' exhibit, with the Bingham & Hetherington Knives, and such other good things as Mr. Nellis selected, to show and compete for the best and largest exhibit of apiarian supplies. It is needless to say that Mr. Nellis obtained the prize.

If it were not that Bingham might be accused of using this opportunity to advertise, he would state the fact that he has received more orders for smokers from New York State in the 30 days since the Utica Convention, than in any previous 3 months since the invention of direct-draft smokers.

Respectfully yours, T. F. BINGHAM.

A Card.—I observe that at the recent meeting of the North-Eastern Bee-Keepers' Convention, at Utica, N. Y., somebody, in speaking of the AMERICAN BEE JOURNAL and its editor, asked, of the contributors to that journal and others interested, the question, "What would you think if you knew your articles were first sent to Bingham, Clute, Doolittle & Co., for their approval or disapproval?" So far as this question has reference to me, I affirm most fully and positively that nothing was ever sent to me from the office of the AMERICAN BEE JOURNAL, or from any person who has any connection with that office either directly or indirectly, for my approval or disapproval. My advice has never been asked or given as to the articles which should appear in the JOURNAL, nor as to the method and spirit in which it should be conducted. Knowing how entirely the question is without foundation as regards myself, I have the best reason to believe that it is equally without foundation as regards the other parties named,

At the same meeting of the North-Eastern Convention "the opinion was expressed that the National Association was run by a ring, for selfish purposes, and facts were cited to establish this view." It was my good fortune to attend the National Association for the first time at the Chicago meeting, and to be honored by election to its board of officers. I am entirely ignorant of any desire or attempt to run that Association for the benefit of any ring. I do not believe that any ring exists in connection with its management, nor that any person or persons are trying to run the Association for selfish purposes. In thinking over what was done at Chicago, I can call to mind only one thing that could be tortured into a support of such a charge. The National Association declined to allow itself to be drawn into the consideration of charges made by one member against another in regard to matters having no connection with the Association, concerning which the Association had no jurisdiction, and could have given no satisfaction to either party, even if it had wasted a large part of its time in the vain attempt to sift the charges. So long as our bee-keeping associations are conducted in the interests of bee-keeping, they will command the cordial support of honest bee-keepers. When they become the arenas for the display of personal animosities, and for airing the differences between rivals in business, those of us who have respect for ourselves and our calling will stay at home. O. CLUTE.

Iowa City, Iowa, 15th March, 1880.

Borodino, N. Y., March 16, 1880.

MR. EDITOR: At the North-Eastern Convention, Mr. House intimated that you submit the communications written for the AMERICAN BEE JOURNAL to "Bingham, Clute, Doolittle & Co., for their approval or disapproval," and that unless such are approved by us, you will not publish them. As I have never seen *even one* such communication before publication, I *demand* that Mr. House either prove his assertion or make a public apology to me. As that Convention awards prizes to those most interested in supplies, their course towards you is extremely inconsistent, and their accusations against the AMERICAN BEE JOURNAL, in reference to honey markets, are ridiculous. G. M. DOOLITTLE.

The insinuation that our endorsement of any implement is controlled by what we can make out of it financially, is sufficiently refuted by the very point cited by our assailant, by which to prove it. When in England, the editor of the *British Bee Journal* inquired what we could supply him with a flat-bottomed foundation machine for. We replied that it was patented, and could not be purchased at all. Now it is sought to torture this into proof that because we could not make money out of the sale of that machine, we purposely "kept it from the public." Consistency *is* a jewel, but its "setting" is *never* jealousy and malignity!

In all the years we have edited and published the BEE JOURNAL, we have "destroyed" the copy of no article "refused," we have returned but 4 or 5, and have on hand now less than a dozen, notwithstanding the assertions to the contrary in the above extract. Only *one* of these was refused because we disagreed with the author of it. We gave him our reasons for not publishing it, as we did not wish him to appear in print in an unfavorable light, being one of our best men. He appreciated it, and thanked us for the criticism.

In the BEE JOURNAL for February, 1879, we stated that a co-operative paper, intended to supplant all those now existing, was contemplated, in Ohio. The father of this "Ohio idea" has ever since been trying to get it to "operate," but finding this a difficult matter, has repeatedly made fierce attacks upon the BEE JOURNAL, endeavoring to work up sufficient feeling against it to make the "co" operate. He accuses us with trying to strangle the unborn infant, but as we have not mentioned it for 14 months, we infer that he thinks our *silence* on the subject is damaging to it. How singularly has the following statement made at the Utica Convention confirmed what we stated more than a year ago, that a war of extermination was to be declared against all the bee papers:

> We have four monthly periodicals, none of which are strictly devoted to the interests of bee-keepers alone, but all are run in the interests of private individuals or companies, who are in some direction or other interested in the manufacture of supplies for the apiary, and their respective journals are their advertising mediums.
>
> Ere another year we will be the happy possessors of a bee periodical second to none in this wide world. We will then have a medium of advertising which will reach all persons interested in apiarian pursuits.

Let it be understood that we have no objection to the starting of a co-operative paper. Let it be started at once; ceasing the boastful talk of what they are going to do!

The following statement was also made before the Utica Convention:

> I have not referred to our other bee journals for the reason that they are private enterprises, and not wholly within the interests of bee-keepers. They have an axe to grind, therefore we cannot expect too much from them!

If the AMERICAN BEE JOURNAL is not the "private enterprise" of its publishers, to whom does it belong? Certainly not to those who now are seeking to destroy it, who have placed themselves in a similar position to that of the *pretended* mother, before King Solomon, who clamored for the division and death of the innocent babe, in order to tear it from its mother's arms! "Wisdom," whether in king or peasant, thus easily discovers the *true* owner.

The gravest error they have committed so far, is to make the following attack upon the National Convention:

> After carefully reviewing the proceeding of the last two National Conventions, I candidly believe that there is not an honest, thinking apiarist, but what is convinced that our National Association is a complete ring within a ring! And judging from the proceedings of the Chicago Convention, can you say that our National Association is *not* managed wholly in the interest of the AMERICAN BEE JOURNAL, its editor and his friends, and for their personal benefit?
>
> The National Association in Convention at New York, elected Mr. T. G. Newman as delegate to attend the various bee and honey shows, and meetings of our brother bee-keepers on the other side of the Atlantic. What do we know of Mr. Newmans trip to Europe from his report in the last Convention at Chicago?
>
> The management of our National Association must be changed, or it will die a disgrace to American apiculture.

Every member of the "North American Bee-Keepers' Society" is directly interested in its good name and permanent success, and will resent the above insult. A sufficient answer to this may be made by quoting the following from an editorial in the *Bee Keepers' Magazine*, written by Mr. King after his return from that Convention:

> The Chicago Convention was, in many respects, the best one ever held in this country. Such unanimity and general good feeling, with the intelligent discussion of a wide range of subjects, rendered it indeed and in truth a "feast of reason and flow of soul," and we cannot but believe that the two or three hundred persons who participated in this feast, feel that it was money and time profitably expended. This desirable condition of things was largely due to the efficiency of the officers of the Association, all whom, save the Treasurer and a few Vice Presidents who were absent, were unanimously re-elected.....
>
> Take it "all in all" the Convention was a "grand success," and did work of permanent value to the science of apiculture.

A few copies of Mr. King's *Magazine* and Mr. Nellis' *Exchange* were forwarded to us for distribution in the Convention. The editor of the BEE JOURNAL *personally* distributed these, but *not one copy* of the BEE JOURNAL was distributed by any one; and yet it is charged that the Convention was run in the interest of the AMERICAN BEE JOURNAL. Such an assertion is supremely ridiculous.

Members of the North-Eastern Convention were in "large majority" at New York, when the National Society *unanimously* elected us its President, and we defy any one to prove that we in any way sought the office, or spoke a word to any one on the subject. The *unanimous* re-election was also *unsought* on our part, and was first suggested by Mr. King, a member of the committee on nomination of officers, who compliments the management in the above.

From the tone of the extract read at the North-Eastern Convention, one would think that we were anxious to continue in that office. On the contrary, although gratefully appreciating the honor, we shall be glad to be relieved. Every year the National Association has cost us from $50 to $60. We have spared neither time nor money to advance its interests, and we feel sure that all right-minded persons appreciate our well-meant endeavors.

At the National Convention of 1878, an invitation was received from Austria for a Representative from America to attend the Bee Congress at Prague. The Convention resolved that if its President could attend the European Conventions for 1879, he should represent the "North American Bee-Keepers' Society." As all know, he went, attended Congresses or met delegations from bee societies in 8 different countries of Europe, furthering the interests of honey-producers by giving lectures on honey, its production and consumption, wherever an opportunity presented itself. Full reports were made in the BEE JOURNAL and other bee papers from time to time. As not a cent of the expense attending this journey was paid by the National Society, can any one in justice complain if he found an opportunity to do some business to reimburse himself in a small measure for time and expense devoted to the interests of honey-producers generally?

The National Society had provided a milage fund for its Representatives who attend bee and honey shows; but he neither asked for nor received *one cent* of it. Verily such management *is* "in the interest of the AMERICAN BEE JOURNAL and for his personal benefit" (as stated in the Utica Convention), and will cause it to "die a disgrace to American apiculture!" Would the co-operative man have managed so foolishly had he been the President?

In order to publish a full report of the last National Convention in the JOURNAL for November, we omitted nearly all the advertisements, abbreviated all the other articles, and condensed the Honey Market Report. This is said to be a *crime* by our adversaries.

The AMERICAN BEE JOURNAL is denounced because it sells supplies for the apiary, but the instigator of all this is a bee supply manufacturer, and seems extremely anxious to have his wares receive special mention in all the Convention reports. He is even now greatly incensed at us because we did not include such in the list of articles exhibited at the National Convention. We were not the Secretary, took no note of the proceedings, and saw no exhibit from him. It was not with other articles exhibited, and if there, was kept from view or not exhibited sufficiently to attract official attention.

In *Gleanings* for March, page 132, it is insinuated that Prof. Cook stole the idea of the cage he took to Washington from this man; but the facts are that Prof. Cook got up no cage, and only took such cages as were sent to him by others for that purpose.

This manufacturer of supplies and denouncer of bee papers refuses to be comforted, until bee-keepers shall subscribe sufficient money to start his co-operative paper "whose editor" is to be "disinterested in the manufacture or sale of supplies for the apiary"—except, perhaps, the queen cages, honey knives, bee smokers, atomizers and tin-foil foundation manufactured and sold by its founder.

We have neither time, space, nor relish to follow up *all* that unprincipled men may say against us or the JOURNAL. In this article we have refuted by unimpeachable testimony the principal charges made by those who desire to create a name and a place in the bee-world by endeavoring to cause confusion and discord. All that they have said is as easily shown to be the machinations of evil-disposed persons as the foregoing, but we know our readers prefer to have the JOURNAL filled with matters pertaining to the practical management of the apiary, and we hope not to deem it necessary to refer to such unpleasant matters again very soon.

The BEE JOURNAL is no pauper, importuning apiarists for the crumbs which may fall from their tables. It asks no favors other than those it is entitled to in the legitimate order of business, always returning a full value for moneys received, and recommending nothing that is unworthy of confidence; it has acted fairly, squarely and openly—evading no issues affecting the general interests of its patrons, and never

playing the sycophant to gain the support of any. It will in the future, as in the past, quietly move along, acting for the best interests of bee-keepers generally, and will be appreciated by those who are impartial and unprejudiced; but may be condemned by those whose minds are too full of prejudice to discriminate between right and wrong—between liberality and narrow-minded selfishness.

If it be an unpardonable sin for a dealer in apiarian supplies to edit a bee journal, how abandoned must he be who manufactures bee hives, bee smokers, etc., and then writes a book to recommend their use and create a sale for them!

Such may make themselves hoarse while crying fraud, but the BEE JOURNAL will keep right along, peacefully and prosperous, while the waves of oblivion shall roll over their denunciations and calumnies.

Correspondence.

For the American Bee Journal.

The Producers' Interests.

JAMES HEDDON.

Years ago, a mulish, long-eared, sordid, selfish fellow (as I was called by some) tried to show honey producers, that is, those who support their wives and little ones from the products of their bees, that all this gush, all these large reports, all this talk about "bees working for nothing and boarding themselves," the assertions that sickly men and weaker woman, could *here* find a lucrative business, one of immense income, with little labor, little sense and less capital, was not only an insult to honey producers, but *false;* and whether so or not, was damaging to the honey producers that then existed.

That these gush-over fellows were gushing for selfish purposes, and not one of them having any experience or thought was following their own royal road to wealth. A patent hive, instruction book or something to sell to the beginner, was always behind the scenes.

All religions, whether true or false, have for their basis, *true moral precepts!* Crafty founders of the latter know enough of human nature to know that their scheme however rickety, must have a *solid foundation*.

There is just at this time a little seed trying to sprout in this fertile soil—TRUTH. The owners intend to name it: "Co-operative Bee Journal." I refer to the following from the *Bee-Keepers' Magazine's* report of the Northeastern Bee-Keepers' Association. My sympathies have always been, and I believe always will be with these principles, but I wish to see nothing but fair, candid truth put into the structure built upon them:

> The opinion was expressed that the National Association is run by a ring, for selfish purposes, and facts were cited to establish this view. Articles sent to the AMERICAN BEE JOURNAL are mutilated to make them conform to the views and interests of the ring that runs it. The JOURNAL makes false statements and charges, and refuses to correct them. It mis-quotes the markets, because its proprietors are dealers in honey and supplies; and, therefore, it appears as the organ of the "bears" in the market.

Mr. Editor, permit me to make a few comments on the above quotation. First, among others I attended that National Convention at Chicago. I was allowed full time to have my say, I became a part of that Convention, I helped to run the controversial part of it, and I was met by strong, but courteous, arguments, I was not a "ring" or any part of one. However small, in the intellectual world I always mean to be a *unit*, and no part of a "ring." That "the meeting was run for selfish purposes" is *true*. I went there to learn, and to do what little I could to protect honey producers; to oppose what I considered the erroneous doctrines that "honey is about to become a staple," and that there is no danger of lowering the price by over production. Supply dealers where there to show their goods, &c.; all for one common purpose, viz: to better their condition; that is to say—selfishness.

Now, in regard to the AMERICAN BEE JOURNAL—what its editor may have done to them I have no means of knowing; but this I do know, that when I was almost alone in advocating the principles they propose to build on, the JOURNAL was the only paper through which I could be heard. Mr. A. I. Root refused my reply to him, without even deigning to give any reasons for so doing. After I had it published elsewhere, he copied it, and replied to it, and again refused a courteous reply to that.

I have a profound respect for the man who willingly and pleasantly received and put into print my articles criticising *all* the bee publications (his own included), and who had the manliness to say: "though we disagree with him, he has a right to be heard." These words of Mr. Newman should be printed in gold, and put as a motto over our doors. I like the AMERICAN BEE JOURNAL because it runs supplies, instead of allowing supplies to run it;

because it is a journal containing supply advertisements, instead of being a supply circular (for sale) containing editorial gush, and some articles copied from other papers; because it is published with ability, making it readable and valuable; because it is run and filled by honey producers, and does not try to run them!!

Its quotations on honey I know by experience are what I can sell for in Chicago. In some other papers the quotations are above the amount of cash the dealers there will pay *me* for it. There is where you get your gush.

The AMERICAN BEE JOURNAL has never done ought to make the price of my products less, except in the *indirect* way of procuring its new subscribers. We all know that wherever it makes its visits, there, sooner or later, the greatest possible amount of honey will be produced. This is all right. I never for one moment expected that honey would long be allowed to bring a price disproportionately above its cost of production. The inquisitive Yankee will settle that. But I desired to be let down easily and not forced to realize a sorrowful reaction, as has been the case with almost every product that for a time was commanding a price above normal profits, as we all know honey did.

If it is desired to make a grand move in favor of actual producers, this is my plan: Stop making your conventions public; admit all, but invite honey producers only; publish reports in honey producer's papers only; when you meet talk up your failures more, and your successes less; leave that "hive for sale" at home, and then you will not be so anxious to report the large yield of surplus you obtained from its top and sides, counting in wood, glass and everything as the result of bee labor in the magic concern!

Is it not just as manly to secrete and enjoy a grand discovery as to get from the government a document by which you can openly keep it all, or make others pay all the profits to be derived from it? What is there unselfish about gathering up a few facts gleaned by practical men, getting it copyrighted and then charging these same men one dollar for these facts, varnished up, with the glare of bright hopes and shining anticipations?

While I have never refused to answer all questions to the best of my ability, politely and truthfully, I have never shouldered any bee paper, going about seeking subscriptions. No, not even this one, in which my advertisement of implements for sale appears. My interest in honey sales and prices of the same, is more than equal to my interest in supplies, and I hope it always will be. More than that, as a supply dealer I consider it my duty to respect the old producer who gave me his confidence and patronage (sent his money with his order) last season, more than to try to make another customer for me, and a new opposition under his nose, or in his field! Should I like to be served so? I tell you it is a fearful condition of things when one wakes up in the night and thinks "there is *nobody* in this bed," or at best, a dead-beat or hypocrite!

Instead of starting more journals and organizing new factions, let us take the best one we have now, sustain it, starving out all publications and supply dealers that gush, or in any way seek to create more producers; make them look to the producers that are, for their support. If such costs $5.00 for a year's subscription, it will be money in our pockets. The moment you commence dealing in supplies, in an honest way, and upon reasonable margins, you will see the effects of these gushers. Common commercial principles will not do at all for their creations. One of their pupils will ask if one of your colonies would average one year with another, $25.00 worth of honey? If not, it is not worth the $8.00 you ask for it. Such will ask if you pay express and freight charges on goods? If you do not warrant safe arrival? So that if any goods are damaged by the carriers they will not have to be bothered by receiving payment from the company, not knowing that the responsibility of the company to the shipper ends when he takes his receipt. I speak of this to show what an eagerness for patronage there must have been with this class of supply dealers. I can think of no cause for the same, except poor goods or large prices—in either case, fat profits.

I must say that I never have been able to discover any of the faults attributed to the AMERICAN BEE JOURNAL in the above quotations. I sold one year's crop to Thos. G. Newman & Son and I received more than I could get of any one else, and received my pay promptly. I have always paid for the JOURNAL, and if it wants goods of me, it must pay me. I suppose neither of us are working for love, except the love of home and family.

I am confident that Mr. Newman has the interest of honey producers at heart, and is always willing to make any arrangements consistent with the best interests of ourselves and himself. I do not imagine the proposed new paper can run by wind (even if it is

sweetened) and it cannot work for our interests, unless we in turn work for its. I am no new hand at the wheel of "producer's interests," but I am not yet ready to give up the old ship. I cannot believe that any new paper can excel the AMERICAN BEE JOURNAL in its devotion to our best interests, or as a clean-cut, well-published paper.

Dowagiac, Mich., March 12, 1880.

For the American Bee Journal.

Sending Bees by Mail.

H. ALLEY.

Prof. Cook should have the thanks of every bee-keeper in the country, for the effort he made in getting that obnoxious order rescinded relating to the sending of bees through the mails. I am of the opinion that this new lease will be of short duration, and will soon be revoked. Not that any shipper of queens will disregard the provisions of this new order, by any means.

Now, suppose some one of that great army of clerks, who are employed to run the postoffice department of this country, complains to the P. M. General that he was stung by bees found in the mails, who could contradict such a statement? The sworn statement of all the bee-keepers in the country would be of no avail, and would not be even noticed by the officials of the postoffice department. Any one can easily predict what the effect of such a complaint would be: "no more bees permitted in the mails," the same as two years since. The postoffice department would not make the least effort to learn whether such a report was well founded or not, and bee-keepers would not have a chance to do so.

Some one of that million of clerks reported two years ago that an attempt was made to ship 50 bees in a paper-box through the mails. I did not believe the statement then, and do not now. I do not believe that such a flat can be found among the one hundred thousand bee-keepers in the United States.

Now a few words about double-wire cages. During the past 18 years I have shipped through the mails nearly 15,000 queen bees. Out of all these only one cage was damaged so that the bees escaped. As there were only 2 bees besides the queen in the cage, I do not believe that any one was badly stung by them. Everybody who has purchased queens of me know the kind of cage I have used. After bees have been in these cages 24 hours, they are not in condition to sting much. This cage was returned to me as proof that the bees were destroyed before they reached the purchaser. It must have dropped on the floor of some postal-car or post-office, and accidently or purposely trod upon, as it bore the imprint of the heel of a man's boot. Does any one suppose that the cages shown to the P. M. General, will prove any better than mine, after 15 years' trial? Certainly the cage made as has been described in the JOURNAL will not stand the pressure of the heel of any man's boot any better than mine. I shall continue to use the same kind of a cage as I have used, and if they must be double wired, will make them so. I think, however, that they will be rather stronger with single wire and enclosed in a paste-board wrapper, like the sample I send you to-day. I shall supply all my cages with the new food such as I used 2 years since. It retains moisture a long time, and has kept bees alive 14 days without water or honey, the bees making a journey to Chicago and back to Wenham in the meantime.

Here is one more point: I have been obliged to pay letter postage on all packages containing bees for several years. Packages sent me only have a 2c. stamp affixed. I have not dared to write the P. M. General about it, as I feared the reply might be the same as the late Mr. Wagner got from that department, on one occasion when he went there on some business for me. After Mr. Wagner had stated his case, he was coolly told by one of the officials that if he had any more trouble about bees he would make an effort to have them excluded from the mails. So you see I never have dared to stir up that kind and obliging official the second time. If I can send packages of bees at the rate of 2c. per ounce, I will make my cages so strong that even the P. M. General cannot hurt them with the heel of his boot.

Wenham, Mass.

[Mr. Alley's queen cage is simply a block of wood having an auger hole covered with wire cloth, and enclosed in a paper box having two small holes in the latter over the bees, to admit air. The one sent, in no way answers the law, and to use such is but to invite a revocation of the order admitting bees to the mails. Mr. Alley says he does not see the need of the double wire screen, but will make them so if necessary. This is right. We *must* respect the law or take the consequences. The food he speaks of is good; we well re-

member the experiments he made last season in sending bees to Chicago and back; the bees were in good condition.

Mr. Frank Boomhower has sent us a new queen cage. It is a good one, and answers the requirements of the law for mailing very well, with the exception of the tin water bottle—liquids are unmailable. It also has a tin cup for candy.

We have also received several other queen cages. All more or less defective concerning the requirements of the law. It is astonishing that so many should seem to be so eager to use a cage according to their notions, than to conform to the postal regulations.

Let no one assume to endanger the rights of all apiarists, by using any cage *not having a double-wire screen*. See our remarks on pages 181, and 182, of this JOURNAL.—ED.]

For the American Bee Journal.

Just How it Appears to Me.

CLAUD HOPPER.

Are bee-keepers a truthful and honest set of men, that is, take them as they run?—Question Box N. E. Convention, p. 60, *Bee-Keepers' Magazine*, for March.

After carefully perusing and re-perusing the "full report of the North Eastern Bee-Keepers' Convention, held at Utica, N. Y., Feb. 11, 12 and 13, 1880," I concluded the above question must have been prompted by some disinterested spectator, and I doubt if he was fully satisfied with the answer; at least, so far as that Convention and some of its controlling spirits were concerned.

Supposing the report to be full and official, as it is signed by the Sec., and attested on p. 43, of *Magazine*, by its editor, who says the report "savors of investigation, and a spirit which prefers solid *truth*, to mere acquiescence for the sake of agreement," I, for one, as a member of the National Convention beg to notice it in my humble way. Perhaps there may be others who feel aggrieved, and possibly some who feel that it as a feeble effort to insult them; but they probably "consider the source, as the boy said," etc.

Can it be "*truth*" to charge such gentlemen as Prof. Cook, Rev. O. Clute, Dr. Parmly, Messrs. Jones, King, Schofield, Dadant, Oatman, Chapman, Bull, Godfrey, Rice, Heddon, Harris, Murphy, Winslow, Hawley, Collins and a host of others, equally as good men as those mentioned, perhaps less prominent, and several ladies (who as scientific apiarists are an honor to their calling) with forming and becoming component parts of a ring to run the National Association for selfish purposes!

Past Events are said to be precursors of the future, and Byron has said "coming events cast their shadows before." As the purling brook ripples down the hillside it gathers force and magnitude till it forms the broad river, and still rolling on through undulating valleys, it finally reaches and becomes part of the ocean, and its identity is lost in a magnitude that puts to shame its unpretending origin. So in the N. E. Convention. The poor, weak, "selfish National Association" is made to run down the hill till it reaches and is absorbed by the BEE JOURNAL; which likewise runs down hill till it reaches and is used up by the irresistible river Detwiler, and again rolling on all is lost in the roaring Betsinger ocean. Each is only a progressive step in the work of building up that great co-operative paper, which will be a "bee journal purely for the interests of the producer, and with a view of advancing the science of apiculture;" a journal whose editor under the guise of disinterestedness shall not sell supplies; nor charge bee-keepers with fraud when adulterating honey, thus "deprecating" honey to the detriment of producers; nor buy honey for what he can get it; nor mutilate articles of correspondents; nor lop out personal allusions; nor correct grammatical errors; nor change punctuation; nor alter manuscript to make it intelligible.

Well, it is a long and tortuous way of reaching a small point. A few irresponsible persons would like to have another paper, and to get it they must have money, or good credit, or good backing; and to get that must tear down those now existing, to build up the new out of their ruins. But what cheek! To abuse the National Association, and then by resolution instruct their Secretary to correspond with its members and invite their co-operation, in bringing about the desired end—as it were, to lick the hands that smote them.

The new paper will be started; of course it will. It has been decreed, and what is to be must be. "Verily, I say unto you," it will be a spicy paper, even though it may have no regard for truth; and like Esau, its hand "will be raised against every man, and every man's hand will be raised against it." I think I will subscribe for that paper, and pay a year's subscription—provided some responsible bee-keeper will guarantee the return of money for unexpired subscription when the collapse takes place.

The average good bee-keeper will stop as he runs, and join the National Association when it reads this epitaph on the registering slate of the defunct, but "unselfish," co-operative paper:

> "Conceived in sin, brought forth in strife—
> How soon my troublous days are over;
> Scarce yesterday I was born to life,
> To-day I lie beneath the clover."

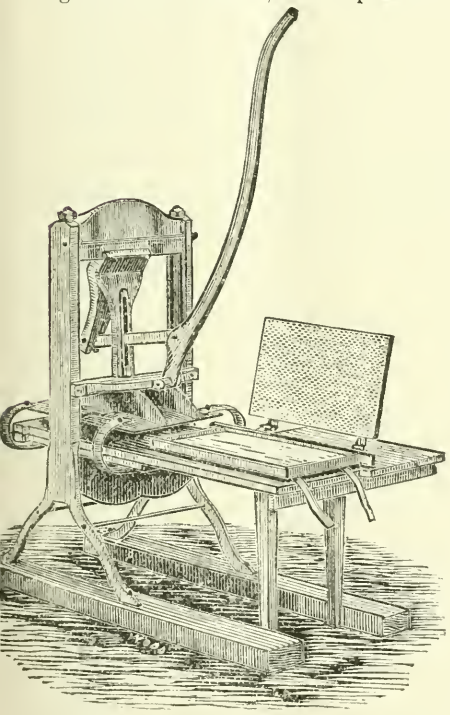
Peculiar, O., March 18, 1880.

For the American Bee Journal.

Given's Comb Foundation Press.

D. S. GIVEN.

By a careful examination of the accompanying engraving, the reader will see how wired foundation is made, with the wires sewed through the frames. The die plates, which are seen half-opened on the die-table, are copper plates with indentations to form the foundations of the cells. The brood-frame, with from 6 to 8 fine wires sewed through the center, is placed on one die, as seen in the cut; the dipped sheet of wax, after being cut the exact size, is then placed in



the frame, the die-book closed, and slides under the powerful press, where the impression is easily made with the strong lever over the die-table.

Now we have the wired foundation held right in the center of the frame, which will always secure to us straight combs, and no distorted cells caused by sagging. Full swarms of bees can be placed in a hive filled with this foundation, and require no looking after; the foundation does not even need wax or anything else to hold it to the top-bar, as the wires alone will hold it securely. Now, for all these and many more advantages, all our extra expense is about two cents' worth of wire to the hive, and a boy can sew this wire in a frame about as fast as foundation can be fastened to the top-bar. Of course, sheets of wax can be pressed into foundation without the wires as well as with them.

In making these copper dies, we can cut the lines of any size to suit the purchaser. If the lines are made heavy, very light foundation cannot be made. If the lines are small, the base of the cells must be thick, unless the foundation is made light. We think that the principal part of the wax should be deposited in the lines, leaving the bottom thin. The bottom of the foundation is often left untouched by the bees, and if the lines contain but a small part of the wax, much is wasted. There need be no fear of any wax placed in the lines or side-walls being wasted. Our aim is to have the side-walls so heavy that foundation 6 feet to the pound would have very thin bases, then if used for the sections, the bees will have something that will benefit them. If used in the brood frames at 5 feet to the pound, there is but little waste of wax when the bottom is left untouched.

The press is all iron, weighs 200 lbs., and is capable of a pressure of 100,000 lbs. About 40,000 lbs. is needed to press a sheet for a Langstroth frame, as near as we can estimate it. This may seem incredible to many, but let them place 300 lbs. on one square inch, and they will find that it is needed to make good foundation. We think our lever a good one, and it works very easily. We have made 25 lbs. of foundation in 30 minutes. The work is about the same as printing on a hand press.

Hoopeston, Ill., March, 1880.

For the American Bee Journal.

To the Bee-Keepers of Missouri.

P. P. COLLIER.

Having been elected Vice President of the North American Bee-Keepers' Society for the State of Missouri, it becomes my duty to do all in my power to advance the interests of apiculture throughout the State. To accomplish this I know of no better way than to request the agricultural and mechanical associations of the State, counties and districts, to include the various products of the apiary in their awards and premiums. I will endeavor to get our products properly before the people, and I would advise apiarists generally to make an exhibit of honey, wax, hives, extractors, and everything pertaining to apiculture at their county.

district, and State fairs in the best marketable shape. I would recommend State productions only. I shall endeavor to procure premiums for the following:

Best package of comb honey, one pound or more.

Best package of extracted honey, one pound or more.

Best crate of comb honey, in the most marketable shape.

Best display of comb and extracted honey.

Best extractor (of State manufacture).

Best display of Italian bees, in movable frame hives.

Best show of beeswax.

Best hive for all purposes, etc.

I hope each one will try to excel, and thus the best will be brought forward. Our National Convention will meet in Cincinnati next fall, where we can compete with the world. We can produce as good honey as any State in the Union, and I hope to see this industry more fully developed. The Secretary of the St. Louis fair has already tendered his services, and I believe there will be no trouble to get co-operation generally.

Mexico, Mo., Feb, 21, 1880.

For the American Bee Journal.

My Experience in Wintering Bees.

J. B. IDE.

I have tried various plans for wintering bees, in years gone by, in Eastern New York. I never thought of protecting bees for winter; they wintered perfectly on summer stands, by keeping them from flying when there was loose snow on the ground. In Michigan I have protected them by packing with straw, with bad results; I have also tried an out-building, well filled in with 10 inches sawdust, and having double doors, with bad results, for two winters. I found such a building about as hazardous as out-of-doors, and abandoned that plan, as well as the packing. Some 8 years ago I purchased 20 colonies of bees; on the 1st of December I placed them in a large, dry, warm cellar, and let them remain quiet until April 1st. All were in fine condition, and not troubled with spring dwindling. I followed the same plan for some four years with like success, until, having a larger number, I resorted to the above described plans, and lost about all my bees. Last fall I again packed my bees in a good, warm cellar. On the 27th of Jan., 1880, they were all placed on their summer stands, and had a grand cleansing flight, the thermometer ranging above 60°. The next morning I put them in the cellar again, where they are all quiet. My cellar ranges from 40 to 44°. I shall leave them in it till April, if the weather does not warrant taking them out sooner. At this date they are in nice condition. They have been breeding for some time, as they contain more bees than in the fall when placed in the cellar. I think, from observation, they do not consume over one-half as much stored in cellar, as in out-door wintering. I should, by all means, recommend a good, dry, warm cellar for wintering bees. I keep the leather-colored Italian. The cellar should be quite dark, with a temperature of 40 to 44°. When going into the cellar with a light be as speedy as possible, as light arouses them for a flight. A few bees will always fly out in the dark, which I think are the old ones coming out to die. The cellar should be ventilated. I make a spout from a piece of 6-inch fencing, which will be 4x6, placed in the window, with a door at the outer end. I open the door on warm nights and close in the morning, for fresh air. A door opening to a room above will let out the foul air.

Climax, Mich., Feb. 20, 1880.

Translated from the Bienen Zeitung

Bee-Keeping in Southern Brazil.

F. A. HANNEMANN.

The honey harvest of 1879 was more abundant than I ever before experienced, notwithstanding we had much unfavorable weather. My daily forenoon occupation from October to December, consisted of nothing but the cutting out of honey, and the mashing of this to obtain "strained honey" made it necessary to employ a steam apparatus once a week.

The past two seasons, in honey production, compare in the ratio of 32 to 42. My "giant hive," containing 31,000 cubic inches, two years ago yielded 16 arrobas (about 515 lbs.); but last year it gave me 21 arrobas (about 670 lbs.) of honey, with the same weight of bees (80 lbs.). The largest hive of 3 years ago, containing about 60 lbs. of bees, last year yielded 385 lbs. against 250 to 300 lbs. for previous years. The "giant hive" carries off the palm; it contained only 125 lbs. of bees and yet produced this year 31 arrobas and 7 kilogrammes nearly 1,000 lbs of beautiful honey.

Some may doubt this statement, but I can assure all that it is the exact truth. It produced astonishment even here, where we are accustomed to large yields, and so I have had the hive photographed—this, though a silent wit-

ness, always tells the truth. It matters nothing to me, however, whether the statement meets with admiration or ridicule, I have found out what I have long sought for, that is what *can* be accomplished with improved management of bees in a country like this, where the old fogies are always complaining of "hard times."

Bee keeping is a science, and requires: 1. Capital with which to establish a proper apiary, procure suitable bee hives, and to improve poor and weak colonies so as to render them able to exist so as not to compel the apiarist through lack of means to disregard the demand for subsistence at the expense of his apiary. 2. Expertness in constructing and improving bee hives as well as in everything pertaining to the necessary manipulations. 3. The proper flora and due secretions of nectar in the flowers from which the bees can gather the honey.

Up to the present time it was my endeavor to ascertain to what extent bees can be concentrated; as I know this now, and have also learned what trouble it occasions to farm, manage and cut the honey from such very large colonies, I have resolved not to increase the size of these mammoth hives in the future; on the contrary, to diminish them, and construct in such manner as I can use movable combs so as to be able to get at the honey without being stung. Then it will not be necessary, as has been the case until now, on account of the dearth of nourishment, to take from such a giant, per force, with the help of two smokers, two persons to take the honey out and two to receive it, from 340 to 720 pounds of honey inside of a single forenoon, or 660 pounds in the morning before breakfast.

* * * * *

My bees do not swarm as much now as in former years, but if I had an increase like that I had in Luneburg, where should I put all the swarms, as my bees cannot gather any honey in the fall? * * * To find room for *seven hundred colonies within from two and a half to three months*, will prove quite enough without longing for more.

What large agricultural establisments can accomplish against the poor farmer, or factories against a single mechanic, that also is accomplished by gigantic colonies against small colonies. To manage a large capital with little exertion, and yet obtain from it large profits, is the object of my system. Take into consideration the 107 square feet of lumber out of which my large hive is constructed; how many small ones do you suppose, one for each single colony, I should have needed? How many would I have required for the 78 swarms that came on this day? How would I have come out with dividing and filling, having only my three children for assistants? And, besides this, it is altogether an impossibility to make such large colonies, containing bees of 50 different varieties and many queens, quiet and orderly in small hives. But, in this case, I filled the large hive towards evening, and on the following morning early I put the remaining bees into two barrels, and the whole number of swarms were cared for; they cheerfully continued their labors, and furnished me altogether with about 1,450 pounds of honey. A handsome reward for the labors of a single day!

My honey-crop, which usually averaged from 500 to 600 gallons, or from 7,000 to 8,000 pounds, and which rose to 750 gallons two years ago, has now increased to 1,260 gallons, or about 15,700 pounds of honey, and about 1,200 pounds of wax. Where all that honey came from, *and* how the bees were able to find such masses of honey within their circuit of flight, and within the space of 3 months, and how they could raise young bees in over 300 hives and still be prosperous, is truly wonderful. *What industrious insects they are!*

* * * That the North American bee-keepers are very progressive I am well aware, and respect them very highly for that reason, but in reference to bee-keeping they see obstacles before them which they are not able to remove, notwithstanding their intelligence. With machines, driven by steam, they can, and probably do, construct accurately, and at the same time very cheaply, bee hives and implements, but nothing else. These handsome boxes can be bought by hundreds, whoever feels so inclined and has the money. But they are empty. Into them belong bees, and to purchase these it takes, as it seems to me, a good deal of money. When they have obtained them, a blooming pasture is required, besides a suitable climate; to manage and keep them it needs a quiet bee-keeper, one who takes pleasure in his occupation and possesses a large experience. But no part of this can be accomplished with a 6 or 20-horse power engine. It is often easier to obtain capital than it is to retain it. All plants which contain saccharine matter can be cultivated, and such plantations may be, according to circumstances, greatly extended; here steam engines can be employed on a large scale to manipulate and submit these plants to a process by which they will furnish a profitable return to their

owners, but—bees, bee-food, blossoms, honey—they cannot produce.

For this reason there must be a suitable climate, numerous swarms must be forthcoming, and when these are at hand at the time when the honey-crop is ripe, then giant colonies must be formed so as to improve to the utmost the opportunity which the flowery season offers. *This is the only way.*

This summer they disdained, for a period of four weeks, all honey inside the garden; they would not have touched it, had it been there in piles. This is a sure sign that the season will be favorable. In that time the thermometer of hope rises from day to day, because such four weeks bring in thousands of pounds of honey.

If any one inquires of the colonists: "How are your bees this year?" they will usually answer: "Oh, they are of no account; they do not prosper any more." What is the use of saying any more to them? Why did my daughter, who lives six miles from here, obtain 527 swarms from 103 cultured hives, and do such a profitable business in honey and wax? It is because she had been brought up in my school.

[The above is interesting, because it shows what can be done in the South American Continent. The "giant hive" is well named—being as large as 12 Langstroth hives—but the yield of honey mentioned (1,000 lbs.) is by no means proportionate to its size. That amount from 12 Langstroth hives is but 80 lbs. for each; and as the bees were so numerous, the quantity should have been three or four times as much, to have been denominated "an enormous yield." Mr. Hannemann is evidently not well informed concerning the apiarists of North America, or he would not intimate that we are given only to inventions, instead of honey producing. Mr. Doolittle, in 1877, reported having obtained 566 lbs. of extracted honey from a colony only one-twelfth as large as the "giant hive" of Mr. Hannemann, which he reports as yielding 1,000 lbs.! In the same year, Mr. Doolittle obtained nearly 900 lbs. of comb honey from 3 hives, aggregating less than one-fourth the size of the "giant hive." Mr. Hannemann should inform himself concerning our honey crops, before he attempts any further comparisons! He will find our apiarists as progressive in bee-keeping as they are in the sciences.—ED.]

For the American Bee Journal.

Location and Over-Stocking.

G. M. DOOLITTLE.

A friend in Poughkeepsie, N. Y., sends me the above as a text for my article in the April AMERICAN BEE JOURNAL. Now, as a rule, I prefer to preach from a text selected by myself, yet I shall try to please my friends when they request articles on certain subjects, to the best of my ability. So, if I do not please as well when the text is given, have charity.

If I was at liberty to choose a location where I desired, and could find such an one, it would be in a place where the land sloped gently to the southeast, with pasturage as follows: Some willow, to stimulate early brood-rearing, with sugar-maple to follow; then apple blossoms, as an assurance of plenty of honey from apple to white clover, which should be abundant. Next, I should want plenty of basswood, and that on a hillside or mountain, so as to prolong its bloom; and lastly, where buckwheat was raised. Of course, if asters and golden rod could be plenty in the fall, it would be still better.

But most of us have other ties beside the bees that fix our location, and so we have to put up with such an one as we have, and the man is to be honored that can be contented and bring about good results with only limited bee pasture at his own home, where duty calls him to remain. If I could have but one of the above named sources for honey, I would select basswood first, clover second, and lastly buckwheat. From all sources of information I can gather, basswood is the greatest honey producer in the United States for the length of time it is in bloom. The lay of the land is not of so much importance as is the forage, for tight fences, or belts of evergreens, can be placed around the bee-yard to protect it from high winds.

I would have the hives face the south or east if possible, as the bees start earlier in the morning than where they face the north and west; also, our prevailing winds are from the north and west.

Next, we come to over-stocking, and here I fear I shall be considered out of the way; yet I think I can give facts to prove my position. If I had a location such as the one above described, I should not fear over-stocking it with 600 colonies, but think that 200 would be as

many as an average location would support to the best advantage, while there are places that 50 would be as many as would give good results to their owner. When we take into consideration that bees fly, from choice, from 2 to 4 miles from home, and are led on, by receding bloom, to 5, 6 and 7 miles, this matter of over-stocking is not so much to be feared as many suppose. But, says one, bees do not go more than 1½ miles from home, and if they did, it could not be made profitable, as so much time would be consumed in flying, that it would not pay. To the first we would reply, that plenty of proof can be brought that bees fly more than 1½ miles, and we will give a bit of our experience to the point, without calling for any other. About the year 1868, a gentleman in Marietta, a small town 3 miles distant in a straight line, purchased some Italian bees. The next spring (before I had any Italians) I was watching the bees at work on apple blossoms, and presently saw an Italian at work. Upon examination, I found that an average of 1 bee in 5 were Italians, and this with apple blossoms in profusion everywhere. Once more: in haying, as we were cutting a field of clover 1 mile from home, or 4 miles from these same Italians, we saw bees at work on the clover. Having heard so much about Italian bees working on red clover, I jumped off my machine, and, to my surprise, counted 5 Italians to 2 blacks, with fields red with clover everywhere.

Now to the last objection, that it is not profitable for bees to fly so far. To the southeast of our home, the land rises gradually for 5 or 6 miles, and at the end of that distance, it is from 800 to 900 feet higher than at the apiary. Unless interrupted by a long rain, our bees follow the receding bloom of basswood till the top of this hill is reached, and we see no slacking of work in the boxes as long as the bloom is plenty on this hill. The bees, also, all work in that direction. The length of time consumed in flying is but little, as a bee can fly at a high rate of speed, said to be 90 miles an hour. Of course, they do not fly as fast when loaded as they do in going from the hives. If bees did not go over 1½ miles for honey, I think 100 colonies would over-stock most localities.

In conclusion I would say, if all colonies are strong and in proper shape to take advantage of the honey harvest when it comes, there will be less cry of over-stocking than there has been in the past. Get the bees, and they will get the honey, if it is secreted within 4 miles of you.

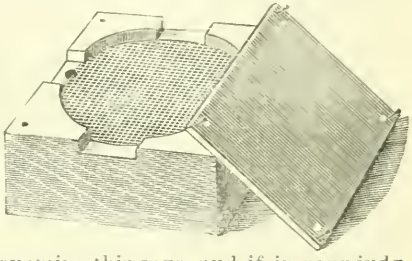
Borodino, N. Y., March, 1880.

For the American Bee Journal.

New Queen Cages for the Mails.

JOS. M. BROOKS.

I send you one of my Safety Queen Shipping Cages, as illustrated and described in *Gleanings* for March, page 108. It is roughly made on account of the center-bit being dull, but will give you the idea. I also send you, as I did Mr. Root, a piece of perforated tin to cover the bees, because I have no wire-cloth suitable. Wire-cloth should be used that has been re-tinned after it is woven, then the wires will all be firmly soldered together and not ravel out, when punched or cut to fit the cage. Please



examine this cage, and if in your judgment it seems to be the strongest, safest and best for our purpose, over others, say so as soon as possible, that shippers may take advantage of the fact, and use them. I do not propose to patent them, and at present, have no machinery to manufacture them. All I ask is that we use whatever is the safest cage, and guard against having the use of the mails denied us again. I think this cage has many advantages over others offered for the purpose, such as safety from being damaged, shape, cheapness, &c. Let it stand on its own merits, if any.

Columbus, Ind., March 5, 1880.

[The cage is a good one, and would have answered the purpose of sending queens through the mails, if the ruling of the Postmaster General had been in accordance with its formation, but as that is not the case, it will not do to attempt to use it in the mails. If one deviation from the requirements of the postal law, be permitted, why not another, or many of them? And then any regulation describing the cage to be admitted in the mails is a farce! If we attempt to use any other cage than one having a "double wire screen" having ¼ of an inch between the two

pieces of wire cloth, we shall soon see the ruling of the department reversed, and the mails *forever* closed against bees and queens! All who intend to use the mails for sending queens, should carefully read over, again and again, the letter of the P. M. General, on page 121, of the JOURNAL for March. Let all be careful how they act in this matter —and then we may long enjoy the boon for which we have so dilligently labored.

Since the above was in type the following letter from the Rev. A. Salisbury, and a sample of his cage, have come to hand:

Carmago, Ill., March 11, 1880.

FRIEND NEWMAN: I send you a Queen Shipping Cage, that as to safety, in every respect, fills the letter of the law. It has no double, or even a single wire cloth over it. The fact that a "double wire screen" is named in the postal law or decision, does not make wire screens necessary to fill the order, when the opening of the cage is covered with a solid board. The object as I understand it, was to secure safety from leakage of honey, stinging by bees, and fright upon the p rt of clerks working for "Uncle Sam." These three objects are well secured in the cage. I have used the cage for two years past, in the mails at times, and by express. If I am mistaken about my cage meeting the design of the law, say so, and why. I expect to use it in the mails, unless there is something about it that would do an injury to our craft.

A. SALISBURY.

It consists of a small nailed box, 1¼ inches square and 3½ inches in length, made similar to a section for comb honey, with strips of wood, ⅛ of an inch narrower than the space on each side, nailed on where the glass is put on sections. The sides are wide enough to project ⅛ of an inch beyond these strips, to admit air to the bees, no matter how it may be placed. Two of these projections were broken off when it came to hand, showing that it was hardly strong enough to endure the rough handling such gets, while in the mails. It contains candy at one end and a small piece of sponge at the other. As liquids are unmailable, the latter is useless.

The cage is an ingenious one, and would have been all right, had not the requirements of the postal department stated explicitly that the cage containing queens shall not only conform "to the provisions of Sec. 223 of the laws and regulations," but also "*with the additional security of a double wire or perforated tin screen for cover*," after the manner of the one submitted by Prof. Cook, the representative of the National Bee-Keepers' Association."

These are the exact words of the order issued and signed by the Postmaster General. To deviate from this, is but to invite a *reversal* for all time to come, of the "temporary suspension" granted to us!

The efforts that the National Association has put forth, the money that some of us have expended to push it to a successful issue, the frequent rebuffs we have had, and the wording of the new Order for a "temporary suspension"—all warn us not to *trifle* with a matter so important, by disregarding the requirements of the Order, and by *assuming* that anything else will do as well as the cage designated.

We do not wish to be dictatorial, but must insist upon the use of no other than the cage with "a double wire screen," when sending queens through the mails. Some have said that we are interested in a particular cage, and impugn our motives for being so particular about this matter. Let us say once for all, that such are only mean and contemptible insinuations, without the least shadow of truth. We have no interest, other than a retailer's profit, in any article that we sell.

We, however, do not belong to that class, who imagine that no man can be honest and just, if he manufactures or sells supplies for the apiary. Some of the best and most upright men in the world are engaged in this business, and we hope *never* to become so depraved as to assert that the opinions of those who are our competitors in business are unjust or their practices dishonest, because they are dealers in or manufacturers of bee-keepers' supplies!—ED.]

For the American Bee Journal.

Experience with "The Queen Yard."

J. M. S.

The inquiry about a "Queen Yard," on page 152, March number of BEE JOURNAL, awakened memories of an odd experience with that same "contrivance," a number of years ago. The device was intended to confine the departing queen, in the act of swarming, near the entrance of the hive; the worker bees and drones being allowed to fly, so that when the bees had returned to the hive the queen could also readily return to the brood-nest.

The "queen yard" was simply a light box about 8 inches long, 5 inches wide and 2 inches deep; an entrance cut at one end to correspond with the entrance to the hive, so that when the box was placed upon the alighting board in front of the hive, the bees would pass from the hive into the box before taking flight. Strips of glass 2 inches wide were fixed at the top of the box so as to project inward from the edges of the box, the width of the glass, all around, to prevent the queen, her wings being clipped, from getting out and being lost.

The theory of this invention at the time seemed correct and some sleep was probably lost between the reading of the description and the completion of a properly constructed queen yard. The contrivance was completed and placed at the entrance of a hive whose queen was worth many dollars, and must not be lost, if possible to be prevented. The swarm issued, the queen came forth reluctantly, capered around in that yard awhile and returned safely. How nicely stock in an eminent apiarist went up amazingly!

The next day that colony was in the air again, and the valuable queen did not appear, the swarm settled quietly, high in the air, on a hickory limb, just like a second swarm. The valuable queen was dead, a new queen with the swarm and the business of queen-rearing going on lively in the parent hive.

That queen yard was then picked up, sadly, thoughtfully, and somewhat doubtfully, and placed in front of a hive of hybrids about 60,000 strong which were threatening to swarm every minute.

In a day or two out came the swarm, pell mell, thousands at a time, tumbling over each other and filling that queen yard full of struggling bees, determined to swarm at all hazards, and that queen climbed over those bees to terra firma, bound for freedom; easy enough, plenty of bees to walk over and she walked. That queen yard went where so much good material has gone—into kindling wood; like many other inventions it worked best when the bees were not present.

As the queen yard was not successful, the inventor need neither be hunted up nor named. He simply made a mistake which he was afterwards swift to correct.

For the American Bee Journal.

Centennial Exposition at Nashville.

S. C. DODGE.

The following are the rules governing entries and exhibits at the Centennial Exposition, Nashville, Tenn.:

1. The building and grounds shall be open for the reception of articles for exhibition on Thursday, April 5, and remain open for the reception of articles until Thursday, April 22. On Friday, April 23, at 7 p.m., the building and grounds will be opened with appropriate ceremonies, and continue open day and night (Sundays excepted) from 10 a.m. to 10 p.m., until Saturday, May 29, 1880.

2. Applications for space should be made upon the printed forms furnished by the board, and forwarded to B. J. McCarthy, chairman of the committee on classification and assignment of space.

The above may be of interest to the Tennessee apiarists and supply dealers generally. There are no premiums. It is simply an advertising scheme, and will be a first-rate one.

I have made application to the board and they have consented to "admit bees in glass cases on exhibition, with a guarantee that they are safely confined.... If the bee-keepers should wish to give premiums, we can accommodate their display." So says the secretary.

Chattanooga, Tenn., March 11, 1880.

[Mr. Dodge, who is Vice President of the North American Bee-Keepers' Society for Tennessee, is evidently pushing matters vigorously in the right direction. A proper and systematized effort on the part of all the officers of the National Society, assisted by the State, District and Local Societies, will do much in placing bee-keeping where it properly belongs—among the most important interests of the country. Much remains yet to be accomplished, and no time is ever so available as the present.—ED.]

For the American Bee Journal.

Where Honey Comes From—No. 2.

WILLIAM TRELEASE.

It will be remembered that we found a spur formed by a prolongation of one of the sepals of the scarlet geranium, in which nectar is secreted by the modified epidermal cells which line the lower part of the tube. Quite similar spurs are not infrequently produced on the sepals and petals of flowers, as, for example, on the petals of the columbine, and those of the bleeding-heart and its pretty wild relatives, the squirrel-corn and Dutchman's breeches; but, though spurs of this kind may secrete much nectar, their length often excludes hive bees from enjoying it.

Prominent among the honey plants of the spring is the basswood or linden. In the flowers of this tree we shall look in vain for a spur of any depth, though their honeyed treasure is plentiful. A careful examination, however, soon shows that this comes from the inner, concave surface of the sepals. Between one of these and the gland of our geranium the difference is one of degree only, and not of kind.

Very early in the spring the willows afford a rich harvest to our patient gleaners, but a satisfactory study of their flowers can only be made by the aid of a hand lens—for instance, one of the folding linen-testers, to be obtained from almost any jeweler, which from its small cost (50 cents or less) is within the reach of all, and for the pleasure its use may afford, if for no other reason, is as profitable an investment of a small sum as can be made, since no observing person can spend an hour among the works of Nature without finding many opportunities to use it. Everybody knows that the catkins or flower-clusters of willows are of two sorts. On one plant they are of a bright yellow, from the abundance of pollen which they bear; on another, their silvery hue is only relieved here and there by the yellowish stigmas. A catkin of this latter sort consists of many simple flowers, each of which can boast of only a single scale for its floral envelope, and a stalked, flask-shaped pistil for its essential organ. At the base of the latter, a small yellow knob or protuberance may be seen, which secretes the nectar, for which these female catkins are visited by bees. The yellower catkins of other plants are male or staminate, only, and each of their flowers consists of a scale, and two stamens, the anthers of which are borne on long and thread-like filaments, at the base of which is a small and not very active nectar gland. Another and most valuable bee plant is the white clover, each head of which is readily seen to be made up of a number of small flowers that are obviously of more complex structure than those of the willow, inasmuch as each consists of a calyx, an irregular corolla of peculiar shape, ten stamens partly grown together, and a central pistil. Between the stamens and the pistil may be seen a small yellow ring or gland, the nature of which is immediately suggested by its similarity to that of the willow. This is the organ charged with the duty of elaborating the nectar found so abundantly in the flowers.

Many other examples might be described, but it must suffice us to merely mention a few flowers in which large nectar glands of this kind are found. Such are the common blue periwinkle, the cow-pea of the South, and many other representatives of the pea family, and the *Salvias* or sages, with many of their labiate relatives.

Some flowers neither have a part of their sepals or petals modified and serving as glands like the geranium and basswood, nor possess glandular knobs or rings like the willow and clover, yet they produce nectar enough to attract various insects. Of this kind is the cotton flower, in which there is not usually nectar enough to induce the visits of hive bees, though certain wasp-like insects may be constantly seen in them during the warm, sunny weather. Our lens shows us that the secreting organs here take the form of small glandular hairs on the lower part of the petals. Though not so common as the other kinds, nectar glands of this form are occasionally met with. In a few cases, which are not of much practical interest to bee-keepers, this sweet fluid which we call nectar is found in abundance within the fleshy walls of spur-like appendages of the floral envelopes, and in other like situations, whence it can be obtained by insects only after they have pierced through the outer tissue. A knowledge of this fact offers us at once a temptation to ascribe all visits of bees to flowers from which they do not collect pollen and in which we can find no free nectar and no nectar glands, to some such diffused glandular tissue; but this ought to be a last resort, after a microscopic examination shows no other glandular structure, and after repeated observations show that the bees are really engaged in collecting nectar. In a future article we will describe a class of concealed glands, speculations concerning the true nature of which have led to a number of mistakes.

Conventions.

Read before the Northeasten Convention.

Increase of Colonies.

L. C. ROOT.

The best method of increase of colonies, how far should it be extended and how best prevented? It is probable that no subject can be named which is of more real interest to bee-keepers throughout the land than the one which I have chosen for this occasion. It has commanded the attention of the most able bee-keepers of the past as well as the present. While marked progress has been the result of the earnest, honest thought which it has received, it may yet be considered one of the mysteries of bee-keeping upon which more light must be given before uniform success will have been attained.

First. The best mode of increase of colonies. There are many bee-keepers who disapprove of any mode of handling bees that checks or controls their natural tendencies. Consequently they favor only natural swarming. Now I desire to say that unrestricted swarming is the most unprofitable system of increase that can be practiced. In fact I know of no one thing which is practiced to any extent that is so thoroughly undesirable and so far behind the times. Even the box-hive and brimstone pit do not prove their advocates so unwise as are those who allow this mode of swarming. Those using the box-hive might control swarming to the extent that sufficient honey would be secured to warrant the application of the brimstone match.

A little over one year ago I suggested this motto: "Keep each colony supplied with a laying queen at all times." Now I desire to make a strong assertion, and I ask bee-keepers to consider it. With a knowledge of what I state, I affirm that if this motto were observed, the amount of honey produced throughout the country at present would be more than doubled, from the same number of colonies. When two or three swarms are allowed to issue, the old colony is without a laying queen from 15 to 20 days. This fact alone makes unrestricted natural swarming entirely undesirable.

Time and space will not allow me to mention the many disadvantages of the practice referred to; but I hope that my assertions, given as the result of thorough investigation and actual practice, will lead those who have not already done so to investigate the advantages to be gained by the more advanced methods of increase. Many maintain that one swarm should be allowed to issue, and all other swarms be prevented. In some localities and some seasons this may prove satisfactory, but, all things considered, I object to any natural swarming. There are several modes of artificial increase, which in most seasons will prove practicable, but I have found that it is necessary to adopt some system that will suit all seasons, for we cannot determine in advance what the season will be. I shall, therefore, recommend as the best mode, that of forming nuclei and building them up to full colonies. In this way the queen may be reared from best selected stock. Then one comb of brood may be taken at a time from original colonies, until each nucleus is built into a strong colony. The place of the cards of brood removed from original colonies should be supplied with empty combs, or frames filled with foundation. The practical benefits to be gained by this method could not be enumerated in a single article. They can only be attained by a thorough study of the subject through the various publications in which practical bee-culture is made plain.

Second. How far should increase be extended? This of course depends upon the wants of the bee-keeper. If honey rather than increase is desired, I would say make as few colonies as is practical and prevent the desire to swarm.

If increase rather than honey is the object, then my answer would be, extend it as far as the season and one's knowledge of the business will allow. Or if a moderate increase is desired and at the same time some surplus honey secured, this may be accomplished, varying of course with the season.

But some will ask, is there not an average rate of increase which may be secured satisfactorily each season and at the same time obtain a large proportion of surplus honey? I answer, no—at least not for such locations as our own, and I think our seasons average as good as in localities generally.

Several years ago, before I made this an exclusive business, I purchased a number of colonies, and as I desired to increase them, I secured extra hives and divided my colonies, giving each part four combs, four empty frames, and giving all laying queens. Later in the season I was obliged to unite them again and feed the original number in order that they might winter. Had I taken one comb from each of eight

colonies, and formed one new colony, the increase would even then have been too great for such a season, and the labor and expense would have been much less. Had the season proved good the larger number could have been made at intervals more practically. I say, then, adopt the nucleus plan, and build up as many as is desired and the season will permit.

Thirdly. How can swarming best be prevented? Swarms might be prevented from issuing, and yet the system by which it is accomplished be very impracticable. The question should be, how can the desire to swarm be controlled? There are many things which tend to prevent the desire to swarm. I have known seasons when the introduction of young queens to the old colonies would prevent swarming in nearly every case. In other seasons this would hardly accomplish it in a single instance. Some have advocated making the original colonies queenless during swarming season. This is practiced satisfactorily by some, but I cannot recommend it. I advise the following:

First. I consider it absolutely essential to have one wing of each laying queen clipped. This prevents any swarm leaving for parts unknown if from any cause such are allowed to issue. When it is desired to secure extracted honey, little trouble will be experienced in preventing swarming. The process of removing the honey from the combs gives both queen and workers ample room, which prevents all desire to swarm. But in securing box-honey it will be found much more difficult. The conditions above mentioned must be observed, and empty comb be at all times afforded which the queen may occupy, as well as boxes with immediate access furnished to employ the working bees. Many allow their hives to become too much crowded with brood and honey before arranging their surplus boxes. Thus the desire to swarm is produced, and many times it will be found hard to subdue it. Boxes should be supplied as early as the bees will occupy them. The colonies should be examined once or twice each week during the swarming season, and combs filled with brood and honey removed and their places supplied with empty combs or frames filled with foundation. I prefer the latter.

Combs that are removed from time to time may be used in building up nuclei to full colonies as before suggested, or they may be used to strengthen lightest colonies which are being extracted. Occasionally a colony will be reluctant to occupy the boxes, consequently the comb or foundation supplied will be at once completed and filled with honey, and the desire to swarm be produced. While I do not claim that any system of management has yet been devised that will prevent the desire to swarm in every instance, I find that when properly carried out this plan has proved the most satisfactory of any I have as yet become acquainted with. A perfect system of handling bees by which the desire to swarm shall be controlled in every instance is yet to be discovered, and when it comes will be welcomed with satisfaction by appreciative bee-keepers everywhere.

Read before the Indiana State Convention.

Causes of Failures in Bee-keeping.

G. W. NEIHARDT.

"Of all who engage in mercantile pursuits, 97 per cent. fail." It is not our province to discuss the cause of their failure. It would seem that others, learning the causes of ill success, would soon be able to avoid a like disaster, or deter them from engaging in such an uncertain business. Large as the per cent. of failures in that business is, failures in the pursuit of apiculture counts its scores for each one of the former. The disaster is not so great, because the amount invested is not so very large, yet the failure is just as complete. More than one-half of the farmers in the country, who have farmed a dozen years, have at sometime tried to keep bees. Not one in twenty keeps any now. Like experiments are tried year after year by others, and as quickly abandoned.

Failures multiply as the number attempting this business increase, so that scarcely a farm can be found but that in some old lumber-room may be found bee-hives and bee-fixtures of all kinds, from the most nondescript, moth-proof, self-dividing, non-swarming box-hives, to the most complicated two-story, twenty-framed, movable-comb, telescope, latest patent concern. Not a single bee is left to excite the appetite with promised sweets, or frighten the timid with its terrible sting. Everything tells of failure—total failure.

"Large profits and quick returns," is ever a tempting prize to lure men into untried fields, regardless of any special fitness for the business. Our agricultural as well as religious and political papers contain articles concerning enormous yields of honey and increase of bees. Of "two to five hundred per cent. realized in the bee business."

"The especial adaptation of apiculture to ladies in indigent circumstances." "The healthfulness of this pursuit for invalids incapable of performing manual labor," etc., while not one single item is devoted to bee management; not a word is said to aid the inexperienced in this undertaking. Bee-hive venders do their full share of mischief, with their pretended wonderful success attending the use of their peculiar fixtures. They no doubt fully believe in the adage that "men desire to be humbugged," and they certainly leave nothing undone to prevent one from realizing their desires in this respect to the utmost. In order to lessen failure in apiculture, and that it may take the rank among the ordinary pursuits of life, to which lovers of bees desire it to attain, it is necessary that incorrect notions be corrected and proper ideas be inculcated. Let conventions teach apiculture to the inexperienced as well as learn from the experience of others. Let them teach that bee-keeping is a science, that there is a reason why, in it. That bee-keeping adapts itself to those who adapt themselves to the bees—and to those only—that something more than bees and hives is necessary to begin bee-keeping, and tell what that something is. Let them teach that failures are opportunities for practical knowledge and future success. Only theories fully tested in practice should be taught, so that beginners may fully comprehend that to keep bees is not necessarily bee-keeping; and that honey raising is more than "holding the spoon to catch the porridge," that they may know at the start, there is "no excellence without great labor." Let the farmers demand of their agricultural editors that they furnish them with stated articles on how to care for bees, by some practical apiarist, in place of those sensational cullings from various papers, which the thoughtful do not believe and the thoughtless too eagerly believe, often to their sorrow. A man is much more likely to succeed, if in his undertakings his ideas of gain fall short, rather than exceed, what is possible to be realized.

A knowledge of systematic bee-keeping—to know how to produce honey in neat and attractive shape and reasonable in amount, is very important to success. But there is something beyond all this that is of greater importance still, and that is a ready and paying market for our products. The price obtained is paramount to the quantity produced. The real question for us to solve is: how to sell honey? or in other words, how to increase the demand for honey? These stories of enormous yields have much to do towards unsettling the demand. Let a man believe that you want one shilling for what cost you one penny, and he is not likely to buy your wares at all, though he might want them ever so much. No one loves to be swindled, yet some disinterested(?) bee-keepers would fain have the public believe that honey could be produced for one cent a pound. It is said that not one person in a hundred in these United States, ever get a taste of honey during the year, much less is it used on the table for food. Here then, is a great gap to be filled. How shall it be done? If one-half the energy, skill and perseverance, which is now employed in raising honey, be directed to the sale and building up of an unfailing demand for it, the subject of permanency in this business would be solved.

Prices ruinously low, however, cannot create a permanent demand. Large profits or sudden rises are fitful and uncertain; while losses and decline in prices are slow to recover. Better not sell at a loss, expecting thereby to create a future demand. Let the only competition among bee-keepers be that of raising the finest products and selling them at the highest prices. The rivalry that is induced by underselling is sure to end in disaster to ourselves as well as to our rivals. One says "raise honey so cheap as to undersell syrup, and it will then take its place." In the first place it cannot be so raised, and in the second place it is doubtful whether it would then take the place of syrup. I do not want honey to take the place of anything else but honey. But I do want it to take that place to its full measure. Might as well say, raise butter and sell it cheaper than oleomargarine and it will take its place. I prefer oleomargarine to keep its proper place and butter grace my table even if its price is somewhat greater.

Read before the N. E. Convention.

The Best Method of Increase.

D. D. PALMER.

The best method of increase of swarms. How far should it be *extended and how best prevented?*

In increasing your colonies make haste slowly; you can buy increase cheaper than you can make it; *i. e.*, your increase in pounds of honey by having few or no swarms will more than compensate or purchase your increase. We find as a rule that those bee-keepers who go slow in increase of

colonies have in a limited time the most bees and more pounds of honey. I would increase by natural swarms furnishing them worker foundation; also increase by having as little decrease as possible. This decrease I would prevent, and at the same time improve my bees by furnishing young queens from the best colony I had to those which lacked the qualities of making them up to my standard of extra good. I would increase by natural swarms, and as few of them as possible; for by artificial swarming we make more increase instead of less.

If bees were high-priced, and I preferred to increase, instead of buying them, I would stimulate my best colonies to raise brood, as soon as the weather and the strength of the colony would permit. I would add frames of worker foundation until I had about 20 Langstroth frames filled with brood, half of them being above the others.

If you have a favorite colony you wish to increase, you can give valuable aid by giving it frames of brood, which are coming out from the cells; being careful to discontinue this a week before dividing. As soon as the weather permits, and your hive is crowded with bees, take away one frame of brood with bees, and the queen from another hive that can spare it, and which you do not wish to increase; make this new hive strong by using a division board by which crowd the two frames to one side of the hive, and add frames filled with foundation just as fast as they need more room. The space in the hive from which we took the comb with queen we fill with any comb without brood, or a board the size of a frame. On the 9th day we divide this colony into as many hives (using division boards) as the amount of bees and queen cells will permit. Frames of emerging brood may be used to strengthen them. In front of each new colony lean a board; this will cause the old bees to mark their location and prevent their returning to the old stand. As fast as these nuclei are crowded with bees add a frame of foundation. How far this increase should be extended, depends upon the apiarist's wants, and his desire should be regulated by the number of colonies he can handle, by his pasture, by the price he can sell at, and the amount of money he has to invest in hives, artificial feed, hired help, surplus arrangements, etc.

The method of increase, and how far it should be extended, has given us but little thought in comparison to what the last, and to us the most important, question has, viz.: How best prevented? For several years we have had as many colonies of bees as we wished, but never enough honey. Therefore, our attention has been directed to how to prevent increase of bees, and turn this over-production of colonies into augmenting the tons of surplus honey. Bear in mind that the directions I shall give are suitable for our location, and not for all places. I do not stimulate in spring by feeding, either in or out of the hive, for by such I would defeat the object I have in view, viz., less increase and more honey; for by artificial stimulating I cause my hives to be overcrowded, and, in consequence, have an increase of swarms to provide hives and surplus arrangements for, and but little or no honey from the old or new colonies.

Come with me (in your imagination) about the 15th of March, to "Sweet Home" apiary. You see my hives have just been placed on their summer stands; they are double portico Langstroth hives, having an entrance at each end. The back entrance is entirely closed by one piece of wood, the front is nearly closed by two blocks. As soon as I find a colony strong enough to cluster outside, I remove one block from the front entrance, and repeat the same with the remaining front entrance block when necessary, and also with the back entrance block, thereby securing good ventilation and preventing in a great measure the hive from being overheated. As warm weather approaches, and the hot sun of summer causes the bees to still cluster outside, although both entrances are open, it becomes necessary that the hives should be shaded. By giving plenty of surplus room for the storing of honey, and by extracting often enough from those hives we run for extracted honey, will keep them almost entirely from swarming. To give plenty of surplus room in those hives run for comb-honey is not so easily done. To accomplish this we use a double-portico Langstroth hive, which gives us room for four boxes of seven prize sections each, or 28 sections in all, holding about 42 lbs. when tin separators are used. These sections have each a piece of foundation used as a guide, and an inducement to work in the box; as a still greater and earlier inducement we put in the center of each box one section filled or nearly so with comb from which we have extracted the honey the previous fall. In these sections we wish to give them working room at all times, to cluster, build comb and store honey, that the brood comb may not be crowded with honey. As fast as these sections are filled and finished, they should be taken off and their places filled with empty ones. By using worker

foundation and cutting out drone comb, we prevent the over-production of drones; this excessive supply of drones we believe causes much of the swarming fever. We will reiterate, what we said years ago in the AMERICAN BEE JOURNAL, that a hive in which there is no drone-comb to raise drones will not swarm. To sum up in brief, ventilate, shade, give plenty of surplus room, and raise no more drones than you need, and those few from choice colonies. But, in spite of all these precautions, we will have many swarms; to make them as few as possible with the least labor, we put the first swarm in a new hive, for so far we have found it useless to return the first swarm. We then make on the slate (of which we are the inventor) of the old hive "'79, June 15, sw'd;" on the slate of the new hive we put "'79, June 15, sw." In from 5 to 10 days afterwards we have a second swarm. While the bees are clustering we pinch all the queen cells, and then return the swarm, thereby putting an end to all swarming of that hive for the present. You will see the use of the slate as a register in swarming. When the first swarm came off we marked on the slate "'79, June 15, sw'd;" when the second swarm came off we saw on the slate that they had swarmed a few days previous. By this record we know that this is a second swarm to be returned. By this means our apiary of 250 colonies has increased but little for the last three years.

New Boston, Ill.

Read before the N. E. Convention.

Improvement of the Italian Bee, Etc.

A. F. MOON.

Permit me to express my great gratification that there are so many representing the apicultural interest of this great republic. Your Association is composed of members from different portions of your State. No doubt many have come at considerable sacrifice; and I extend to you all the hand of fellowship, and greet you all as co-laborers in the great cause of apiculture. I trust you have met with no sinister motives; you have no political arguments to advance, you have no sectional or party purposes to promulgate, but your meeting is for purposes more important; you have met to advance apiarian science and art almost coeval with the earliest branches of industry.

The improvement of the Italian honey bee is a matter of great importance, and one that should interest the bee-keepers of our country. It is about 20 years since their introduction into this country; they have been held and managed principally by the leading bee-keepers of the country, men who claim to understand and instruct how to breed the bee in all its purity as well as any other stock. Some of them have written many a flowery article, setting forth their principal requisites, also encouraging their improvement, etc.; but I am led to believe that their efforts have almost, if not entirely, been in "vain," even in their own apiaries, which would prove to the observer that they did not *practice* what they *recommended*, and they, or some of them, have flown, like the lost sheep of "Israel;" some are fleeing to other countries to see if they cannot find something better, and perhaps, too, without even trying to improve upon the best bee ever known. But, away over "yonder" is the bee; *his proboscis* is so "long!" Oh, sir, it's just the bee for this "country;" not *content* or *competent* to *improve* what they have, but must try something new, which will add another great *trouble* in keeping the races *pure*. It seems that other *professional bee* men have *struck* for "higher wages," and gone to *raising dollar queens* and *sending them broadcast* over the *country*. So much for improvement.

Improvement of the Italian honey bee since its introduction to this country has been slow indeed. I will give a few ideas for the consideration of your Association, hoping, however, if I cannot say anything encouraging, that I will not say anything to *impede* the interest of bee culture. To improve the Italian honey bee means something more than "writing essays." In fact, I am almost led to believe that all, or nearly all, the efforts that have been put forth in this direction have been in vain. If the bee-keepers of this country cannot be prevailed upon to improve our present race of bees we cannot see the propriety of introducing another "bee" to augment our present trouble in keeping them pure. It seems that a great amount of time has been spent in talking and writing in behalf of this improvement, yet we have failed to see it. This, gentlemen, is all wrong. If we do not improve upon our present bee, we deem it folly in the extreme to talk about importing something that is considered by practical bee-men no better. It really seems that many of our so-called bee men have lost sight altogether of improvement. About 20 years ago the Italian bee was introduced into this country, and where is the man that can say that their qualities have been made better, or even as good, as the first importation? It is not

to be found, and who is to blame? The honey bee is just as susceptible of improvement as any other stock, and the question is asked how we shall proceed. Our method is to select with care from the apiary the strongest and most vigorous of both drones and queens; upon this will rest the secret of success.

In queens we choose those possessing the greatest number of qualifications, without regard to color, but her progeny must be uniformly marked and good workers, with peaceable dispositions. If this can be attained, even with the bright golden color of the workers, we do not object. In selecting drones they must be bred from queens of undoubted purity, possessing all the qualifications belonging to the Italian bee; they must be strong and vigorous, and marked uniformly with the dark copper-colored bands, avoiding every time drones of a bright yellow. The drones must be large and active, as greater vitality is imparted from the male than the female. We avoid breeding from drones where the queens have met with hybrid or black drones. *Dzierzon* or no *Dzierzon*, for such we have no faith in or use for.

In crossing with relatives, this, to a certain extent, can be avoided. However, we do not consider it so injurious if proper care has been taken formerly in crossing. The question of in-and-in breeding I believe has never been settled by the uniform custom of any large number of breeders. The practice in the old country with respect to horses and cattle appears to be once in and once out, avoiding, if possible, incest. It has been the custom of our people to practice twice in and once out; this custom has been highly received by breeders of the old country, although it has not been altogether reduced to anything like uniformity among American breeders. By in-and-in breeding is understood to imply the union of near relatives, avoiding kindred of the first degree. It is a well-known fact that long continued in-breeding, without great care, would tend to diminish the constitution; therefore, it is very essential to breed out to strangers to keep up the size and other qualities; this can be accomplished by careful selection of breeding stock. When the desired end is accomplished, we can breed back to kindred. By this process we get the most substance in the least compass. It is a fact that many of the in-bred horses have exhibited most wonderful strength, which has induced many breeders to follow. Some of the finest and most valuable horses and sheep have been bred and inter-bred through kindreds for many generations. The same law operates the same when applied with proper care to the honey bee; but to maintain that high degree of excellence we should draw often from imported stock, and test their breeding qualities before we attempt to use them as breeding stock. I have found the best cross to come from a home-bred queen, and drones from an imported mother. In crossing this way, we get a higher grade of excellence, and retain many of their original qualities. It has been, and is now, the custom of many of our breeders to breed almost exclusively for color, which, in our estimation, has reduced some of their best qualities. Instead of improving them, it has in some points weakened them. One of the great drawbacks in the way of successful improvement is in flooding the country with cheap untested queens—"dollar queens." We have not space or time to give a faint idea of the amount of injury it has done in stopping the progress of improvement. We will only mention one or two of its leading features and their results:

Mr. A has spent largely, both in time and money, in procuring the best and purest stock he could get; besides he buys up and Italianizes all the black bees within his range in order to breed his bees purely and improve his stock. After testing them, he sells them at a moderate price, knowing them to be pure. Mr. B, his neighbor, is anxious to keep a few bees, and, believing the Italian bee to be superior, at the same time wishing to save a dollar, he sends to a dollar queen breeder and gets a queen. He introduces it safely; but being a novice in the business, cannot tell whether his queen is pure or purely mated; but the queen proves to be a hybrid of the lowest type, and Mr. B does not know it, but Mr. A has found it out to his sorrow. He has found many of his young queens impurely mated; he at once seeks to find from whence it came; he finds that Mr. B has obtained a dollar queen, and, upon examining them, finds them a heavy, strong colony of hybrids, which is generally the case with such a cross, and, of course, the swarm is alive with drones—enough to seed a whole State. Now, gentlemen, you can form some idea of the damage that dollar queen man has done not only Mr. A, but perhaps a dozen more in the same place. That Mr. A, who has been to the trouble to Italianize his bees, has suffered the same fate from the hybrid drones purchased, perhaps, of some of our great bee men, who sell the Italian bee.

Here, gentlemen, is but a faint view of the facts that no candid man will

deny, and what is to be done to remove the evil, for such it is? Men will not be coaxed, hired, or driven. If there is a sufficient number of practical, intelligent bee-keepers in this country, who will stand side by side with each other to put down this nefarious evil and impediment to successful improvement, then we can hope for success in bringing the Italian honey bee to a high state of cultivation, but not without. It is folly in the extreme to talk and write essays unless we can get men to act. The Italian honey bee in its purity is good enough. All we want is men with sufficient knowledge and energy to demonstrate and bring forth their excellent qualities. When this can be brought about, then we may expect that the Italian bee in its purity may, and will be, classed as the best bee of all the world.

Rome, Ga.

Cortland Union, N. Y., Convention.

A meeting of the Association was held in Cortland, N. Y., Tuesday, February 3, 1880, and a permanent organization effected.

The constitution and by-laws, presented by the committee appointed for that purpose at the last meeting, were adopted.

J. G. Bingham, the temporary president, read a brief, pointed, practical and encouraging article upon "The objects of a Bee-Keepers' Association." He spoke of the benefits which may be derived by its members in becoming acquainted with each other; by relating their successes and failures, others might profit by the former and avoid the latter; in short, it would be to the mutual advantage of all.

This was followed by some remarks from different members, and a short discussion of "the relative merits of natural and artificial swarming."

E. Corey had practiced the artificial method for many years, and on the whole had been satisfied with the results.

A. L. Lansing had tried it, but for some reason had not been very successful.

Others frankly admitted they were acquainted only with natural swarming.

D. F. Shattuck, of Homer, read a paper on "Spring Management." He gave some good hints regarding the precautions to be observed, and the methods to employ to prevent the loss of weak colonies; and to keep all in good condition to enter upon the honey harvest—the regulation of the number of frames to the strength of the colony, supplying artificial pollen, &c.

The Association proceeded to the election of officers for the ensuing year, with the following result:

President, Chas. A. Pierce, of Truxton; First Vice President, J. L. Gillett, of Cortland; Second Vice President, E. B. Glazier, of Virgil; Third Vice President, J. G. Bingham, of Solon; Honorary Vice Presidents, G. M. Doolittle, of Borodino; I. L. Schofield, of Chenango Bridge; Harvey Mason, of Fabius; Oscar Courtney, of Marathon; Harvey Mellon, of McLean; Treasurer, J. W. Cudworth, of McGrawville; Secretary, C. M. Bean, of McGrawville.

According to a resolution passed by the Association, the Chair appointed A. L. Lansing, of Truxton, and J. H. Kennedy, of Little Rock, to act with him as Executive Committee. The next meeting of the Association will be held Tuesday, April 6, 1880, at Cortland. All interested are cordially invited.

C. M. Bean, *Sec.*

Read before the North Eastern Convention.

Increase—Clipping Queen's Wings.

A. B. WEED.

This subject is one of the most important with which the bee-keeper has to do. It is one that he cannot disregard and let the bees settle it for him, because it is not likely that their choice would coincide with his wishes, hence the necessity of understanding how to control the bees in this matter.

In considering this subject we start out on the presumption that bees have no will of their own, but are controlled by that almost indefinable something which is called nature.

It is nature that makes the conditions which surround bees as well as other animals in their wild or natural state, and it is that which is called instinct, that tells them how to conform to these conditions. When under the control of man, their instinct still prompts them to accommodate themselves so far as it is possible, to the circumstances by which man surrounds them.

Circumstances make the animal almost as much as they are said to make the man. It is this word circumstance, that is the key of animated nature. By using it rightly we can control our subject; but if we use it in such a way as to violate any of nature's laws, she will resent our interference, and we find that we have defeated our own object by disregarding prudence.

Thus, the conduct of bees at that season of the year that we call swarming time, is controlled by certain laws or conditions, which nature has estab-

lished, and if we can effect these conditions, we can control the bees. The conditons which bring about swarming, are a good yield of nectar, and warm weather—and of course a good queen. The first tells the queen that it is now safe to lay abundantly, for the food which the young larvæ will need as soon as hatched, is abundant, and the second makes it possible for her to move freely about the hive, and also enlarges the brood-nest, by enabling the bees to spread themselves, as they cannot do in cold weather, and so keep warm a large number of combs. As the work of the hive—that is the rearing of brood and the storing of honey progresses, the hive becomes crowded and the bees seem to see the time ahead when it will be over crowded. They appear to know that the only relief from such an embarrassment of riches, is to be obtained by swarming, and this they proceed to do by making queen-cells, so that the old hive will not be left queenless, for generally, bees are provident of the future. If these queen-cells are removed, swarming is usually delayed; but if in addition to this a few cells are kept empty of honey, and ready for the queen's use, and room provided for the workers as well, the desire to swarm will seldom be manifested. At least if the other conditions surrounding the colony are favorable to its comfort. This may necessitate shading or ventilation, or both. Chaff hives, in a great measure at least, maintain a comfortable and an even temperature, which of course, tends to make the bees contented with their home, and so the disposition to swarm is discouraged. It should be remarked in passing, that uncomfortable quarters will cause bees to swarm, when no other reason can be assigned for the act.

If in spite of all our precautions, a colony is determined to swarm, we still have a means of detaining them, if the precaution is taken in time—we mean the clipping of the queen's wing. This is so important, and so easily done that it is best to render all queens incapable of leaving their homes.

This will not prevent the bees from swarming, but they will come back when they find themselves queeniess, unless they have an opportunity of uniting with another outcoming swarm which has its queen, which they will sometimes do. The clipped queen will accompany the bees out of the hive, without seeming to be aware that she cannot accompany them on the wing. On account of her disability to fly, she will soon settle to the earth, or alight on some low shrub or tuft of grass, a few of her workers will surround her, and by the cluster that they thus form, she may easily be found and put back in the hive. But before this is done, any queen-cells which there may be in the hive, should be removed. They are often useful to put in nuclei.

If the bees cluster, and they generally do before they return to their hive, a few handsfull may be used to strengthen weak colonies or nuclei. This will generally also serve the purpose of weakening the swarming hive enough to quiet their desire to swarm for the season; but still more may be done in that direction by the use of the extractor, so as to give more room to both workers and queen.

A colony managed in this way if the queen is an abundant layer, will soon become very strong and in the best condition to yield profit to its owner, and in this condition it should be kept, if the object of the owner is honey rather than increase. It is much easier to keep a colony in this state, if extracted honey is desired rather than honey in the comb, for bees are disinclined to work in boxes which are necessarily away from the brood-chamber, while there is unoccupied room in the body of the hive. Hence it is sometimes more desirable to raise extracted than comb honey.

If comb honey is the desideratum, the mode of proceedure is much the same, except that the workers are allowed to crowd themselves out of the body of the hive, and are thus compelled to work in the section boxes, which are provided for them, or swarm—which they are inclined to do unless the queen has some empty cells—and these it is a hard matter to keep supplied, on account of the disposition of the workers to fill all unoccupied cells in the brood-chamber before storing in the surplus boxes. The point at which bees will store in surplus boxes and yet not swarm, is a critical one, and a difficult one to maintain, though many apiarists are successful in doing it. It requires both skill and close watchfulness.

There seems to be a difference in the various families of bees in their disposition to swarm, some being more disposed to do so than others. This is an important trait, and should be taken into consideration when selecting colonies to breed from. Strong colonies do much more work in proportion to size than weak ones, in respect to both honey gathering and brood rearing, hence swarming is accomplished only at a great expense.

When there seems to be danger that some of our strong colonies will swarm

even in spite of the precautions which we have taken, a very good way to weaken them and thus remove the danger, and at the same time obtain material of which to make other colonies or nuclei, is to take from them as many frames as necessary, of hatching brood, with the adhering bees and put in their place either empty combs or frames of foundation. The combs of brood which we have removed are probably the most valuable part of our apiary, and are the best material with which to make nuclei. These nuclei should be immediately supplied with queens; if the queens are laying and tested, so much the better.

These nuclei or small colonies, are now in a fair way to become good sized colonies before winter, if circumstances are favorable to them even if given no material aid, though they will appreciate any help which may be given them in the way of additional frames of hatching brood. This way of making nuclei out of the surplus strength of strong colonies, is, we believe, a much better way than breaking a large colony into numerous and weak nuclei, and then waiting for them to attain full size by a long process of feeble growth. By some it is preferred to take a few brood combs with the adhering bees from each of several strong colonies and unite them, so as to make a strong colony at once. This way is perhaps the best, but the former has the advantage of providing a large number of nuclei wherein to raise and test young queens, and this is a thing much to be desired by those who, like ourselves, rear queens for sale.

This taking away of brood frames is a heavy drain on the strength of the parent colonies, and if forage should become scarce, it may become necessary to feed them so that the depleted number of workers can act as nurses, rather than spend their time in roaming the fields. It is frequently a good plan to feed any weak colony and thus in a measure render them independent of untoward circumstances by supplying conditions which are favorable.

As to the time for performing the various operations of the apiary, no rigid rule can be laid down, because seasons vary from each other as well as localities. Therefore a paper of this kind must necessarily be suggestive rather than didactic, and we would hint that unless the yield of nectar in the early part of the season is very large, that nuclei and new colonies be made after the clover yield rather than before or during it, so that we may have strong colonies at the right time to take advantage of this large harvest. And also that the work of dividing be done before the fall harvest so that the new colony may be in a condition to take advantage of it. The question how far may the increasing of colonies be extended is to be decided by the needs of the bee-keeper and his ability to build his nuclei and weak colonies up before winter so that they will be able to stand that trying ordeal. It should be the aim of apiarists to have opportunity of doing a particular thing coincident with the need thereof, and he should be ever ready to take advantage of the occasion.

Detroit, Mich.

North Eastern Convention.

The Question Box.

1. What is the best way to ship extracted honey? Ans. Barrels or kegs.

2. How far will bees go in search of honey? Ans. by two, four to six miles; by one, two miles.

3. In any ordinary locality how many colonies can be kept in one place to advantage? Ans. by one, not over sixty; by two, one hundred to three hundred.

4. Which is the best time to ship bees on the cars where they are to go two hundred miles southeast, spring or fall? Ans. Spring.

5. Does the advantage, in better ventilation of a hive with two entrances, more than compensate for the probable loss of bees when one of the entrances is closed in the fall? Ans. Yes; the bees generally are acquainted with both entrances.

6. How do you extract the wires from the comb after the foundation is drawn out? Ans. With little tweezers. Pull them upward.

7. Which is the best foundation for surplus honey boxes—drone or worker? Ans. Worker makes the best appearance when capped over.

8. Is candy, made of good sugar, a good thing to feed bees with during winter, provided they have enough honey in the hive to supply necessary liquid? Ans. Yes, provided there is no way of getting along without it.

9. Or, if we could feed them water and candy would it do just as well as honey? Ans. No.

10. How thick should a section box for honey be when separators are used? Ans. 1¾ to 2 inches.

11. Will bees store and cap as much honey when the sections are two inches thick as when they are of less thickness, if a separator is used between each section? Ans. Yes.

12. Is it an established fact that for out-door wintering, a hive should not face the north? Ans. No.

13. In which direction should they face? Ans. Southeast.

14. Are bee-keepers a truthful and honest set of men, that is, take them as they run? Ans. They average good.

15. Is dysentery a disease produced by bad honey or is it produced by the sudden changes of the atmosphere? Ans. Both.

16. Which mode will increase the fastest, artificial or natural swarming? Ans. Artificial.

17. What is the best method to use in wintering bees on their summer stands? Ans. Make them comfortable.

18. Which is the best way to render wax, with a press and boiler, or with a wax steamer? Ans. With a wax steamer.

19. Can queens be fertilized in confinement so as to make it profitable? Ans. Prof. Hasbrouck says yes.

20. Will it pay to get a patent on implements to be used in the apiary? Ans. by two. Judging from the past, we say no. By one of the committee—yes, if you have a good invention.

21. What is the best and most simple hive to use? Ans. The hive I use.

22. Upon the issue of a swarm, at what time, prior or after, is the parent hive supplied with another queen. Ans. In most cases after.

Reports of Committees on Prizes.

The committee on prize essays would report that they have carefully considered the two essays upon "The best methods of swarming and preventing the same," and have concluded that as the two essays were of so nearly equal merit, they therefore recommend that the prize offered be divided between the two contestants, A. B. Weed and D. D. Palmer.

On the subject, "The different races of bees and their crosses," your committee would award the prize to Mr. Julius Hoffman, of Fort Plain.

On "Comb Foundation" the majority of the committee recommends that the prize for the best essay be awarded to Julius Van Deusen, of Sprout Brook, N. Y.

The committee on implements reported, and awarded the prizes as follows: The prize for best Honey Extractor was awarded to Mr. A. J. King, of New York City.

The prize for the best and most practical bee-hive, with surplus arrangement and boxes, was awarded to the "Shuck Eclectic," exhibited by Mr. A. J. King, of New York City.

The prize for the "Best Display of Apiarian Implements" was awarded to Mr. J. H. Nellis, of Canajoharie, N. Y.

The prize for the "Best and most practical bee smoker" was awarded to the "Quinby Smoker," manufactured and exhibited by L. C. Root & Bro., of Mohawk, N. Y.

The prize for the best "Comb Foundation," for the brood chamber, was awarded to J. Van Deusen & Son.

The prize for the best "Comb Foundation" for the surplus boxes was awarded to J. Van Deusen & Son.

Your committee would call the attention of bee-keepers to the following articles as worthy of their approval:

"Peet's Combination Queen Cage." The committee considers it the best and most practical cage in the the market.

We also recommend the several "Honey Knives" on exhibition, viz: The new knife of Mr. Detwiler, the Bingham & Hetherington, and Noviee's.

We also highly approve of the Wax Extractor as made by Mr. J. H. Nellis; and would recommend every one just commencing the bee business to purchase a copy of each of the works on bee-culture on exhibition, viz: "Quinby's New Bee-keeping," and "The Bee-Keepers' Text-Book.

Nebraska State Convention.

The first annual meeting of the Nebraska Bee-Keepers' Association was convened at Omaha, on Saturday, Feb. 21, with President Hiram Craig, of Ft Calhoun, in the chair, and W. G. Pigman, Secretary.

After the transaction of some routine business, the subject of "The Spring Management of Bees" was taken up for discussion. The different modes of feeding to produce early breeding were discussed.

The election of officers for the ensuing year then took place, with the following result:

President—Hiram Craig, Ft. Calhoun.

Vice Presidents—J. R. Kennedy, Papillon; D. J. Arnold, Brownville; J. H. Masters, Nebraska City; J. W. Flynn, Fairfield; T. L. Vondorn, Omaha; Dr. Cochran, Tecumseh.

Treasurer—J. N. Dynes, Papillon.

Secretary—W. G. Pigman, Omaha.

Assistant Secretary—W. C. B. Allen, Omaha.

A committee consisting of Messrs. Vondorn, Corbett, McLain, was appointed to arrange with the managers of the State Fair to secure a proper exhibit of the products of the bee-keepers of Nebraska.

Read before the Northeastern Convention

A Neglected Field.

H. A. BURCH.

We know full well, that the research of the scientific apiarists of our land have explained away many mysteries that encompassed our vocation, and solved very many of the difficult problems relative to the establishment of bee-culture upon a permanent and paying basis.

To the advanced thought of the ever-active German mind are we greatly indebted for the gratifying results already attained. But every obstacle—in fact the chief of all—has not yet been compassed. While with our present facilities we are enabled to quadruple our yield of surplus honey, the question, how we may best realize on this healthful sweet, has received very little attention at our hands.

Ignoring the matter of attractive packages, which was made a necessity by circumstances beyond our control,

we find ourselves confronted by this question: "Can we not command better and more uniform figures for our surplus honey?"

We need not dwell upon the importance of this problem. To its speedy solution we invite your earnest and careful consideration, believing that, by the co-operation of our practical apiarists, an affirmative answer will be the result.

To make our position clear and unmistakable, please allow us to present an example by way of illustration. As you well know, Chicago is the great mart of the northwest. One of her busiest streets is devoted almost exclusively to the purchase and sale of our agricultural, horticultural and apicultural products. Her three hundred commission merchants solicit consignments of our honey.

Now there are in our vicinity three or four persons making bee-culture a specialty. Three years ago, we (the writer and his neighbors) shipped our honey to as many different firms handling that article, each one of course expecting to get the best prices. The outcome showed a wide difference in point of results, net prices varying from 12 to 22c. per pound. Why this difference? We found that the firm realizing the best prices was better adapted, and possessed better facilities for the handling of honey. To-day our honey goes to one house (whose advertisement appears in your programme), and we all obtain satisfactory prices.

Now the point we wish to make, is this; can we not, by concentrating the honey trade, obtain better prices than we now do? Our experience is positively on the affirmative side of this question. A common sense view of the situation, it seems to us, corroborates our position; the history of the commercial world confirms it. To give one, or at most two firms in each of the large towns and cities, control of the honey trade, is essential; but equally essential is it, that these firms shall be composed of men of large business experience; that they shall possess tact and energy; and that they shall be men of known ability, and unquestioned integrity. Such men can be found, shall we not make such an arrangement with them as shall be alike advantageous to them and to ourselves. If these few hurried thoughts shall be the means of awakening our bee conventions to better views of their most vital interests, and direct their energies into this practical channel, then indeed shall we rejoice that we have striven to cultivate "a neglected field."

W. Illinois and E. Iowa Convention.

The seventh semi-annual meeting of our Society will be held at Monmouth, Warren Co., Ill., Thursday and Friday, April 29-30, 1880. All bee-keepers and others who are in any way interested in bees or honey, are cordially invited to be present.

The Rev. O. Clute, of Iowa City, Iowa, will again favor us with a lecture on the evening of April 29th, on some topic of general interest to all.

The committee of reception will receeive and exhibit free, all artieles sent by bee-keepers or manufacturers, if sent to the Secretary at Monmouth, Ill., and *charges prepaid.* The hotels will keep bee-keepers at redneed rates. From letters receeived we think this meeting will fully equal if not excel any previous meeting of the Society. Many valuable prizes have already been offered and more will be forthcoming.

Monmouth was the birth-place of our Society, let us show them how large we have grown. Let every member turn out that can, and bring many bee friends.

The prizes which have been given away at our meetings have added not a little to the success and interest of the sessions, and it is a pleasure to deal with men who do just as they say they will. For one the Secretary can say that the pair of Black Cochin fowls drawn by him at Burlington last fall, from Dr. J. R. Baker, Keithsburg, Ill., are most superb speeimens of that exeellent variety of fowls. Among other prizes offered, the Doctor and his wife give a pair of Black Cochin chicks, to be delivered next September, value $5.00 and a setting of eggs of either Black Spanish, Black Cochin or B. B. R. Game, value $2.00.

WILL. M. KELLOGG, *Sec.*
Oquawka, Ill.

From the Journal of Horticulture, London.

British Bee-Keepers' Association.

The annual meeting of this Association was held Feb. 18th, under the presidency of the Baroness Burdett-Coutts. After the usual preliminaries the Baroness expressed her pleasure at the manifest progress of the Association, and suggesting that the Presidents of county associations should be elected as Vice Presidents of the parent Association. The condition of Ireland was referred to. The Baroness expressed a hope that the work which Canon Bagot has taken up would do much in enligtening the peasantry in better methods of bee-culture to their immense advantage, as the plans they now follow are very crude and profitless; and adding that perhaps the British Bee-Keepers' Association might see it wise to organize a series of gatherings in the sister island. The report was moved from the chair, and carried unanimously.

Dr. Ogle and Mr. Jackson of Slindon, in moving and seconding a vote of

thanks to the officers and Committee, spoke in high terms of the position the Society had achieved in their hands.

Rev. Herbert R. Peel proposed and Mr. F. Cheshire seconded a vote of thanks to the Royal Horticultural Society for their hearty and ready co-operation in the projects of the British Bee-Keepers' Association. After the election of officers, in which warm expression was given to the value of the Hon. Sec., the list of votes for the Committee (the whole of whom have been re-elected) was read. Mr. Huckle was appointed paid Assistant Secretary.

Perhaps the most important proposition was moved by the Rev. E. Bartrum in an able and telling speech :—That in the opinion of this Association it is advisable that a professorship of apiculture should be established in connection with the Science and Art Department at South Kensington, and that the Committee be requested to take such steps as shall seem expedient with a view to the establishment of a professorship. The proposer pointed out that in relation to apiculture we were behindhand, as we formerly were in drawing, designing, and many branches of technical knowledge, but that the schools of design had accomplished a work in relation to the objects the importance and value of which to the community, it was impossible to estimate. No large town could now be visited without seeing signs of progress. Apiculture being so behindhand, should we not do well by taking the same steps here as have done so much in other directions? The duties of a professor would be to visit the normal schools and training colleges. "Just look," said the speaker, "at the wonderful ignorance of our teachers on the question, while in Germany no man is admitted to a mastership of a village school without he can pass an examination in bee-culture. The value of the bee is not measured by its power of producing honey. It has an influence of the most marked kind upon many of our crops, and without its visits to our orchards their fruitage would be little better than total failure. In ten years we should by this step do a work which we can hardly imagine. If the Association cordially sanction my proposal the Committee will use its influence with the Department to bring about so desirable a consummation; and in taking this step we shall not be regarded as riding a personal hobby, for our enthusiasm will rest in the conviction that we are advocating what will benefit the country at large."

The Rev. George Raynor seconded the proposition with equal ability, remarking that the present moment seemed perhaps an unfitting one for bringing it foward; but he thought that in the present depressed condition of agriculture the farmers might well catch at every straw presented to them. The fertilization of many crops, especially clover seed, received peculiar help from bee-keeping. "I am sure, then," added he, "that a better time could not be found for the question in hand, and here, it may be, that agriculture's extremity will be apiculture's opportunity. We should endeavor to connect this subject with the teaching of youth. It is impossible to prevent the cottager adhering to the brimstone pit, but with the rising generation we may have hope to spread enlightened ideas." The proposition was unanimously affirmed.

Mr. J. P. Jackson proposed the formation of a reference and loan library of works relating to bee-culture, which after debate was carried *nem. con.* The meeting was large and influential, many prominent apiculturists from a distance being present. The prize schedule will be considered at the next meeting of the Committee on March 10th.

Death of the Rev. J. Van Eaton.

It is with sorrowful feelings that I write to inform you of the death of the Rev. Dr. John Van Eaton, pastor of the United Presbyterian Church of York, Livingstone Co., N. Y., who died of heart disease March 5, 1880, in the 63d year of his age. Occupying the same pulpit and looking to the spiritual welfare of a large congregation for more than a quarter of a century—his was a vigorous, active, useful life, a noble manhood, a triumphant death. A brother minister, who knew him well, remarked in his funeral eulogy, "that he was looked upon by his associates in the body as the ablest member of this presbytery."

A deep scholar in theology, his sermons full of ripe thought; were interesting, convincing and eloquent. Aside from pastoral duties apiculture was his chosen pursuit. He gave to its improvement the powerful genius of a fertile brain, and with assistant co-laborers to carry out his ideas, by practical experiment, successfully wrought the solution of important problems in progressive apiculture, one being the practical and profitable use of wax foundation for surplus honey after it had been condemned as unsuitable for such purposes by the almost unanimous voice of several Associations.

M. Quinby is at rest; Adam Grimm, and many others whose names were familiar as writers in our bee publications, are no more.

Thus one by one are passing away those who have done much towards placing bee-keeping in the position it now occupies.

Peoria, N. Y. C. R. Isham.

Letter Drawer.

Smith's Grove, Ky., March 3, 1880.

As it is the duty of the Vice Presidents of the National Association to correspond with the Secretaries of Agricultural Associations, in their respective states, I take this method to request the bee-keepers of Kentucky to send me the address of Secretaries in their localities, so that I may be able to correspond with them, and induce them to offer premiums for bees, hives, honey and apiarian supplies. As the premium lists are usually made out early in the year, I am anxious to get the addresses as soon as possible.

N. P. ALLEN,
Vice President for Ky. N.A.B.K.S.

Park's Corners, Ill., March 3, 1880.

My 50 colonies of bees were put in the cellar about Nov. 15th, and taken out for a cleansing flight Feb. 23, all in good condition. One of my nucleus colonies swarmed out with a fine Italian queen and was lost. I put all back in the cellar the same day; the cellar is well ventilated with 3 inch flues. The thermometer stands from 40° to 48°. The bees seem to be doing well; they are all strong, with plenty of honey; but a good many bees crawl out of the hives and die. I swept out three pans full of dead bees when I took them out, but there are plenty left. Is that too many dead bees for the length of time they were confined in the cellar? I use the Langstroth hive and have mostly Italian bees. D. G. WEBSTER.

[The dead bees are evidently the old ones, dying from natural causes.—ED.]

Martinsburg, Mo., March 5, 1880.

The past year has been the most disastrous one on bees since the advent of scientific bee-keeping. Last summer was so unfavorable that there was but small increase in colonies, and no surplus honey. In fact a large proportion had not enough stores to take them through the winter, and it became necessary to feed them. The present winter has been so mild and dry, that we all thought that "our pets" would come through all right, but we were sadly mistaken, for the smallest loss that I have heard of is 20 per cent.; the average loss of colonies since the commencement of winter is about 75 per cent. Persons with but few bees, who did not pay much attention to them, have generally lost all.

W. L. FRENCH.

Borodino, N. Y., March 6, 1880.

Bees have wintered finely so far. It is warm and rainy now, with no snow on the ground. The prospects are good for a poor season on white clover as the winter has been so open that the frost has badly drawn it out of the ground.

G. M. DOOLITTLE.

Light Street, Pa., March 6, 1880.

Bees are doing very well. They have been on the wing nearly every week during the winter. No signs of dysentery or dwindling. Prospect somewhat brighter for the bee-keeper than last spring. H. H. BROWN.

Blairstown, Iowa, Feb. 24, 1880.

The winter, so far, has been very favorable for bees; though it has been very cold at times, we have had no prolonged cold weather. There has not been a month that bees have not had a good flight, and consequently where they were properly taken care of they are in good condition. The hybrids have commenced breeding, while the blacks show no signs of doing so. The weather for the last few days has been very warm; to-day the thermometer stands at 62°.

HARRY G. BURNET.

O'Fallon Depot, Ill., Feb. 27, 1880.

During the past 10 or 12 years I have purchased some 25 queens from Mr. H. Alley, of Wenham, Mass., and I remember but one of them that has raised hybrids. In 1876 I obtained 15 dollar queens of him. The fall was a dry one and forage scarce, and I lost about one-half of them in introducing. Though I did not request it he gave me three more queens in the year 1878 to assist in bearing this loss. The latter have done well, and I reared from them some 30 queens last summer, which were even lighter in color than their mothers—as beautiful queens as I ever saw. My bees wintered well. Some brought in natural pollen yesterday. C. T. SMITH.

Hokah, Minn., March 4, 1880.

I have 8 colonies of Italian bees doing well. I am feeding the lightest ones with honey and granulated sugar. Last spring I lost all but one. I bought 4 colonies, 3 of them blacks, and Italianized from a queen that I bought from the Rev. A. Salisbury. She fills the bill in every respect. Last fall I bought an imported queen (Pometta), which is doing well, the bees are not as large as the others or as regularly marked. I think I have a good way to remove moth worms. Shake off the bees, then

keep tapping on the frame with any thing hard which will jar the moth, which is concealed amongst the young brood; when it is disturbed it will make its appearance and leave the comb as soon as it can. You can then kill them without cutting the comb. After I got pure Italians I had none of the above named work to do, they saved me the trouble. The BEE JOURNAL I always read with interest. WM. LOSSING.

Williamsville, Mich., March 13, 1880.

Our bees are wintering well so far. We put half of them in the cellar last fall, and left the rest on the summer stands, with straw in each end of the hives and over them. But they consumed so much more honey out-of-doors that in January we put all the rest in but 2, where they have been breeding since February 1st; also the 2 left out. I lately examined some and they appeared to be crazy for water: they fell into the water and drowned by the hundreds. Their actions struck me so forcibly that I would like to know if it is not imperative that it should be so that they can get water at all times while breeding? Is the Van Deusen foundation a success when used for comb honey? C. F. SMITH, JR.

[Bees when breeding need water, and it should be supplied to them if they have none at command. The Van Deusen foundation is thin enough to be unobjectionable for comb honey, and is successfully used by some.—ED.]

Knoxville, Iowa, March 12, 1880.

My bees are doing splendidly. I wintered 34 colonies in the cellar; have them now on their summer stands. I lost none, but will have to feed some of them before the bloom comes. They are now rearing brood nicely.

A. J. SCOLES.

Mexico, Mo., Feb. 21, 1880.

There has been a great mortality among the bees in this region. The last season was the worst for bees that I ever saw. There was no surplus honey gathered, except about 200 pounds, which I took myself; no others report any surplus. In consequence, many colonies have starved, and many were left to winter on late, sour honey. Dysentery and foul brood have swept off whole apiaries. I hear of one man who had 130; he now has none left. Capt. Dicks has lost 15 by foul brood. I tried a new plan of putting up my bees on the summer stands, and they seem to be doing well. If I am successful with it, I will report. One thing worthy of remark is the very heavy loss of queens last fall. I lost 5 young laying queens; many others reported heavy losses of queens last September. All the drones were killed off and there was no chance to raise queens. Can you tell me the cause of so many queens disappearing with colonies in good condition? It was not caused by disturbing the bees or opening the hives. P. P. COLLIER.

[We cannot answer this without knowing more concerning the condition of things, and perhaps not then.—ED.]

Cincinnati, O., March 8, 1880.

I take great interest in bee-culture. I think I have discovered a good plan of wintering bees. I use the Langstroth hive and made a box to go over it, about 1½ inches larger all around except the front. The space I pack with pulverised charcoal, which is an absorbent of moisture, and a protection from heat and cold. C. LAIBLY.

Waveland, Ind., Feb. 23.

The present mild winter will, I think, in some measure, make up for the poor season last year. I prepared about 30 colonies last fall, by doubling up and dividing the honey around as best I could. I have lost none this far. The best thing that I have used for brushing bees off the combs or hiving is a hawk's wing. The feathers are soft and springy, of good length, and will stand a good deal of use. If any one has anything better, let them report. Almost any sporting man will furnish the birds free of charge. Probably the wing of other birds of flight will do as well. The more hawks we kill the less our poultry yards will be troubled by them.

ISAAC SHARP.

Compton, Ill., March 16, 1880,

I commenced two years ago with one colony of bees, traded for 5 more and increased to 11 by natural and artificial swarming, but had poor success with the latter method. In the fall I bought 8 more colonies, but lost half of them after taking them out of the cellar. I see one of your correspondents thinks that it is the colonies with old queens die out by spring dwindling, but I lost about as many young as old queens. I noticed it was the Italians that left me, I carried them out too early in the spring and they were so eager to get to work that they chilled and were not able to return to the hive. I bought 20 more in the spring of 1879 and increased to 45, but obtained no surplus honey.

C. E. HARRINGTON.

Columbia, Tenn., March 16, 1880.

Our bees have passed through the winter with but little loss, and are now in fine condition. With few exceptions, they have an abundance of stores, and are breeding rapidly. Pollen is without stint, and the bees are gathering some honey from the peach and plum bloom. We think our prospects for a big honey crop the coming season, very flattering. Colonies of bees are very cheap here. We have now with us a party of gentlemen from the North who are buying good colonies, in Langstroth and American hives, at from $1.50 to $3.00. This surely must be a better honey country than the north, or northwest. Colonies can be bought here for less than half they cost there. Why is this? Is it for the want of a little Yankee nerve to be infused into the southern composition? It seems to me if some of your Doolittles, Hetheringtons, Heddons, Binghams, etc., would come here and engage in the bee business, with their northern pluck, economy and energy, they certainly would make money. Why do they not come? We would heartily welcome them, and treat them kindly. Let them come. Now, in conclusion, allow me to say, that I have noticed, that some of your correspondents and advertisers, prefix to their names "Rev.," "Dr." &c., and not seeing very clearly what divinity or medicine, has to do with bee keeping, I have concluded to sign my name plain.

JOHN FOX.

Carson City, Mich., March 10, 1880.

We have had a fine winter for the bees; those in this locality have done well so far. I have not heard of any one losing over 2 or 3 colonies, and there are a great many bee-keepers in this section. I started last spring with 9 colonies and increased up to 18, doing well considering the season. I packed them in chaff on their summer stands, in October, and they were not out much until Jan. 4th, when they had a nice flight, and they have not been confined to their hives for more than two weeks at a time since. I have lost 1 colony and 1 nucleus. The colony that died was the strongest that I had last fall, when packed, and seemed to be on Jan. 4th, when they took their first flight; after that they would carry out dead bees when the rest would not venture out, and on Feb. 14th I found them dead with only about a quart of bees in the hive. They had about twenty-five lbs. of good sealed honey; there were no signs of dysentery and they had a good queen and plenty of brood Oct. 3, 1879. I think the rest will come out all right unless we have a backward spring. We are having as cold weather now as we have had this winter; thermometer down to zero. Success to the AMERICAN BEE JOURNAL, for to it I owe my success.

A. B. LOOMIS.

Mont Clair, N. J., March 15, 1880.

In the fall of 1878 I had 34 colonies of bees, and lost all but 8 in wintering, by dysentery. Last summer I increased to 17, and obtained 300 lbs. of honey. These are doing well, and were bringing in pollen on Feb. 26th. I have purchased more bees. I can sell my honey at home for 25 to 30c. per pound.

J. W. RIKER.

Burlington, Ky., March 15, 1880.

My bees are in good condition with 2 or 3 frames of sealed brood in each hive. We have had a very mild winter; the thermometer indicating at no time a greater degree of cold than 10° above zero.

C. W. SAXTON.

Venice, Pa., March 16, 1880.

I started with one colony last year; obtained one natural swarm; wintered successfully on the summer stands, packed with straw; March 1st moved to higher ground, and am now giving artificial pollen. I am highly pleased with the BEE JOURNAL and wish it much success.

WM. M. SLATER.

Wheeler, Ind., March 20, 1880.

In *Gleanings* for last month I noticed a statement that Mr. Detwiler exhibited a queen cage with a double-wire cloth at the National Convention in Chicago, and complaining that Prof. Cook did not give him the credit for it. I boarded at the same hotel with Mr. Detwiler, and was with him much of the time during the Convention, and never saw or heard of him having a queen cage, nor do I believe he had one there. I suggested to Prof. Cook the idea of a double wire queen cage, and *at his request* sent him, by way of the office of the AMERICAN BEE JOURNAL, one of the cages he took to Washington, and fully believe the idea originated with me.

J. L. HARRIS.

Youngsville, Pa., March 10, 1880.

I have 15 vols. of the AMERICAN BEE JOURNAL, 10 of which are bound, and I would not part with them for their cost, which proves to my mind that I have made a profitable investment. Bees have wintered well in this locality. I have 167 colonies in fine condition, out of 172, put up in the fall; 3 proved to be queenless, or became so during the winter, and 2 starved. I purchased an individual right to make and use the

Langstroth hive, during the life of said patent, and with others in this State have used a movable partition, or division board recommended on page 96 of 3d editon of Langstroth's "Hive and HoneyBee," said work was published in 1868, and now comes N. C. Mitchell & Co., and demands a royalty of $5.00 for the use of said division board in the Langstroth hive, and threatened my friend A. A. Harrison, of Erie county, with prosecution in the U. S. Circuit Court for some fabulous amount, if he refuses to pay up. W. J. Davis.

McLane, Pa., March 17, 1880.

Enclosed find a letter and circular from N. C. Mitchell & Co. Sometime since two men called and wanted to talk with me about bees and see my hives, &c. I gladly showed them around and during the time showed them a plain division board, which I sometimes use in Langstroth hives (I use nothing but the Langstroth). They then said I was using something that I would have to pay for, as they had paid for a right to manufacture and sell it. I told them I did not believe it, as I got them from Mr. W. J. Davis who told me there was no patent on the Langstroth hive. I also told them I believed N. C. Mitchell & Co., had no right to a patent on a division board. They have been here since and said that I must pay them $5.00 or it would cost me $100; also showed me a circular from Mitchell & Co., that if their agents did not push their claims they would find sand enough to bag all infringers. I told them I would pay no $5.00 nor $100 until the law compelled me to, and that they might force their claims at once. I wish you would give this matter attention in the Journal, or they may scare some innocent persons into paying their claims. I think it only a polite way of stealing.

A. A. Harrison.

[In the Journal for 1878, page 99, you will find Mr. Mitchell's claim, as set forth in his patent. His patent distinctly states that it is a combination of a board supplied with lugs—*i. e.*, movable irons screwed to the board, or legs on which it stands,— and a woolen or rubber strip at each side. A plain board is unpatentable, and has been in use for many years before Mr. Mitchell ever thought of obtaining a patent on it. Let no one be scared into paying a royalty on any such. They dare not push it, knowing full well that they could not succeed.—Ed.]

Business Matters.

OUR TERMS OF SUBSCRIPTION,

PAYABLE STRICTLY IN ADVANCE.

Single subscription, one year			$1.50
Two subscriptions,	"	"	2.50
Three subscriptions,	"	"	3.50
Four subscriptions,	"	"	4.50
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Advertisements will be inserted at the rate of **20 cents** per line of Agate space, for each insertion. A line will contain about **eight words**; fourteen lines will occupy an inch of space. Advertisements must be received by the 20th, to insure insertion.

Special Notices 50 cents per line.

☞ We intend only to advertise for reliable dealers, who expect to fulfill all their advertised promises. Cases of *real* imposition will be exposed.

Remit by express, money-order, registered letter or New York or Chicago drafts, payable to our order. *Do not send checks on local banks*, for such cost us 25 cents each for collecting.

THOMAS G. NEWMAN & SON,

972 & 974 West Madison St. CHICAGO, ILL.

To Correspondents.

Our Illustrated Catalogue and Price List will be sent free, on application.

When changing a post-office address, mention the *old* address as well as the new one.

Constitutions and By-Laws, for local Associations, $2.00 per 100. The name of the Association printed in the blanks for 50 cents extra.

We do not send goods by C. O. D., unless sufficient money is sent with the order to pay express charges both ways, in case not taken from express office.

Strangers wishing to visit our office and Museum of Implements for the Apiary, should take the Madison street-cars (going west). They pass our door.

In consequence of the dearth of small currency in the country, we will receive either **1, 2 or 3 cent stamps,** for anything desired from this office. We cannot use Canadian or other foreign stamps.

We will send a tested Italian Queen to any one sending us **FIVE** subscribers to the American Bee Journal with **$7.50.** The premium Queens will in every case be tested, but not sent till after July 1st.

Club names for the Bee Journal may be sent to as many post offices as there are names in the club. Additions can be made to clubs at any time at the same rate. Specimen copies, Posters, and Illustrated Price List sent free upon application, for canvassing.

Seeds or samples of merchandise can be mailed for one cent per ounce, Printed matter one cent for every two ounces. These must be tied up; if pasted, they are subject to letter postage. *Don't send small packages by express, that can just as well be sent by mail.*

Our answer to all who ask credit is this: We sell on **small** margins, and cannot afford to take the risks of doing a credit business. If we did such a business, we should be obliged to add at least 10 to 20 per cent. more to our prices, to make up for those who would never pay, and to pay the expenses of keeping book-accounts with our customers—this we know our **Cash** customers would not think to their advantage.—This rule we must make general in order not to do injustice to any one. The cash system gives all the advantage to cash customers, while the credit system works to their injury. In justice to all we **must therefore require Cash with the order.**

Bingham's Smoker Corner.

Every bee-keeper needs a good smoker; it will pay for itself many times over during a season's operations. We find by comparison in actual service, that the Bingham is the superior of all, hence we advise its purchase—standard or large size preferable.—*J. Oatman & Sons' Circular for* 1880.

Shreveport, La., Feb. 9, 1880.

I have used one of Bingham's large smokers for the past two years, and like it very well. Half-rotten wood burns out too fast, but I have not been able to keep it going with hard-wood alone, so I use some cloth with it.—C. R. CARLIN, in *Gleanings* for March.

The past season has proven the Bingham & Hetherington Honey Knives to be far superior to all others. We advise the purchase of none other.—*J. Oatman & Sons' Circular for* 1880.

Bingham has certainly so far succeeded in giving us a smoker of which there is but very little complaint.—A. I. ROOT, in *Gleanings* for March.

☞ We expect an importation of Italian queens in May, and can fill all orders promptly, after their arrival.

CATALOGUES FOR 1880.—Since our last issue, we have received the new catalogues of the following dealers in bees and apiarian supplies: L. C. Root & Bro., Mohawk, N. Y.; Lewis & Parks, Watertown, Wis.; H. A. Burch & Co., South Haven, Mich.; C. F. Muth, Cincinnati, O.; H. H. Brown, Light Street, Pa.; D. S. Given, Hoopeston, Ill.; S. Valentine, Double Pipe Creek, Md.

☞ By referring to the printed address on the wrapper of every copy of the BEE JOURNAL, each subscriber can ascertain when his subscription expires. We stop sending the BEE JOURNAL promptly when the time for which it is paid runs out—sending only during the time paid for. In making remittances, *always* send by postal order, registered letter, or by draft on Chicago or New York. Drafts on other cities, and local checks, are not taken by the banks in this city except at a discount, to pay expense of collecting them.

☞ "The Farm," an agricultural paper published in Dublin, Ireland, has been enlarged and improved in appearance. The publication office has been removed to new and commodious quarters at 87 Marlboro St., Dublin, and it will in future be edited by Thos. B. Grant, Esq., for many years the co-editor of the *Irish Farmers' Gazette*.

☞ The freight on 200 lbs. sent to Georgia, was $3.85, showing that bee-keepers there can get goods from the north at reasonable rates.

☞ H. H., Byron, O., asks how to dispose of black ants when they are troublesome in the apiary. A little powdered borax scattered about their hills will generally cause them to decamp.

☞ We have received an Almanac for 1880, published by the Philadelphia *Record*. It is beautifully printed and illustrated, and contains much information.

The Cortland Union Convention will be held at Cortland, N. Y., on Tuesday, April 6, 1880. All interested in bees are cordially invited. C. M. BEAN, *Sec.*

☞ The Central Michigan Bee-Keepers' Association, will convene at the New Capitol in Lansing, April 15, 1880. An invitation is extended to all manufactors of apiarian supplies, who desire to exhibit their wares, to come and present them, or if consigned to the care of J. Ashworth, Pres., they will be exhibited. We expect a large meeting.

J. ASHWORTH, *President.*

Local Convention Directory.

1880.	*Time and Place of Meeting.*
April 1	—Union Association, at Eminence, Ky.
	6—Fireman's Hall, Cortland, N. Y.
	15—Central Michigan, at Lansing, Mich.
	29, 30—W. Ill. and E. Iowa, at Monmouth, Ill.
May 4.	—N. W. Ill. & S. W. Wis., at Pecatonica, Ill.
	4, 5—Central Kentucky, at Lexington, Ky.
	5—Southern Michigan, at Battle Creek, Mich.
	18—Rock River Valley, at Davis Junction, Ill.
	25.—Northwestern Union, at Hastings, Minn.
Oct. —	—National, at Cincinnati, Ohio.
	5, 6.—Northern Michigan, at Carson City, Mich.
	14—Southern Kentucky, at Louisville, Ky.
Dec. 8.	—Michigan State, at Lansing, Mich.
1881.	
Feb. 2	—Northeastern, at Rome, N. Y.

☞ In order to have this Table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

Honey and Beeswax Market.

BUYERS' QUOTATIONS.

CHICAGO.

HONEY.—White clover, in single-comb sections, 16@18c.; when with more than one comb in a box, 2c. per lb. less. Extracted, 7@9c.

BEESWAX.—Prime choice yellow, 20@22c; darker grades, 14@16c.

NEW YORK.

HONEY.—Best white, in single-comb sections, 16@20c. Larger boxes, 2c. per lb. less. Extracted, 8@10c.

BEESWAX.—Prime quality, 23@25c.

CINCINNATI.

HONEY.—White, in single-comb sections, 16@18c. Extracted sells readily—7@9c. C. F. MUTH.

SAN FRANCISCO.

HONEY.—Our market is quiet, with fair stocks for the season. Holders are forcing sales to make room for new crop, which we will get in May. We quote Comb at 12½@15c.; Extracted, 7@9c. ℔ lb.

BEESWAX—22@23c. STEARNS & SMITH.

Cup Cake.—Two cups honey; one cup butter; one cup sweet milk; three eggs. Warm the honey to make it thin. Use yeast powder.

☞Silver-frosted bees were the gift of the bridegroom to the bridesmaids at a recent wedding, the bride's initials being B. E. E.

AN ACTIVE PUBLISHING HOUSE.

Messrs. T. B. Peterson & Brothers, 306 Chestnut street, Philadelphia, have just published the following new books: "The Little Countess," by Octave Feuillet, "Nana" and "L'Assomoir," by Emile Zola, "The American 'L'Assomoir,' a Parody on 'Zola's L'Assomoir,'" "How She Won Him; or, the Bride of Charming Valley," "Major Jones' Courtship," with 21 illustrations, "Angele's Fortune," by Andre Thuriet, "Dosia," by Henry Greville, and "Hyde Park Sketches," all in uniform style with their editions of "Henry Greville's" popular works. These books are very entertaining and are meeting with the great success they so richly deserve. Booksellers are requested to send in their orders, and all Book Buyers should send for Petersons' full Catalogue. Address all letters to T. B. Peterson & Brothers, Philadelphia, Pa.

Stabilimento D'Apicoltura

OF

PIETRO PILATI,

Strada Stefano 88, *Bologna, Italy.*

	April, May, June.	July, Aug.	Sept., Oct.
1 Queen.....	11.50 francs.	9.50 francs.	6 francs.
6 "	66 "	55 "	35 "
12 "	130 "	108 "	68 "

I guarantee purity, prolificness and safe arrival. Should any die *en route* they will be replaced. The value of a franc is 18¾ cents in gold. I solicit American orders. 4-5

Wanted.—A situation to take care of an Apiary. I am a thorough bee-keeper, according to the system "Dathe;" am 24 years of age, and speak only German. Will work for a reasonable salary. Address HENRY SCHLEMMER, *care of* JNO. JOS. SCHLEMMER, *Elsah, Jersey Co., Ill.* 1p

FOUR DAYS AND NIGHTS WITH

THE SPIRITS,

AT MOTT'S, MEMPHIS, MO., being an exposure of the **HUMBUG** by which thousands are being swindled. This book of 40 pages, 5x7 inches, will be sent by mail for 25 cents in stamps. Address, **D. D. PALMER,** New Boston, Ill., Originator of the

SWEET HOME

Raspberry; 1,050 berries picked from one cane. Never winter kills. The largest and best black cap.

Send for Circular. 3-tf

IMPROVED

Langstroth, Simplicity and Chaff Hive.

Having enlarged my facilities for the manufacture of Bee Hives and Section Boxes, I shall be able the present season to furnish the trade with better goods and for less money than any house in the West. Please send for Price List.

S. D. BULL, Union City, Branch Co., Mich.

☞ **Full Colonies of Yellow Bees,** in the best condition; honey by the barrel or less. 1-tf J. M. MARVIN, St. Charles, Kane Co., Ill.

A Good Offer!

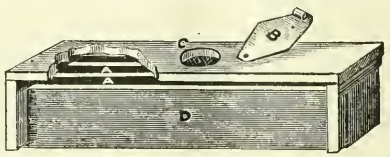
King's Bee-Keepers' Magazine,

a live, first-class monthly paper, devoted to bee-culture in all its branches,

Price, One Dollar per Year,

and

SHUCK'S BEE FEEDER,



approved by leading apiarists; exceedingly simple, convenient and effective; thousands are in use and no complaint; *feeds equally well at entrance of hive or top of frames, without danger of robbing from its use.* Price, by mail, 30 cents each.

BOTH of the above for $1.00. *Now* is the time. Address,

4-1t J. M. SHUCK, Des Moines, Iowa.

SPECIAL NOTICE.

Having now perfected my new dovetailing machine, I will hereafter make no extra charge for dovetailing sections. I will from this date furnish 4¼x4¼ **White Poplar** sections, in lots of from 100 to 5,000, at $6.00 per 1,000; in lots of over 5,000, at $5.50 per 1,000. Circulars free. **A. E. MANUM.**

Bristol, Vt., March 20, 1879.

EVERETT'S Honey Extractors and Everett Langstroth Hives a specialty. We challenge competition in price and quality. Our circular and price list of apiarian supplies, Italian Bees and high-class poultry sent free. **EVERETT BROS.,** Toledo, O.

QUEENS! QUEENS!!

QOLDEN ITALIAN QUEENS.

Beautiful, and **good** as the **best, all** bred from **select** Imported and home-bred mothers. One tested Queen, $2.00; six for $11.00. One Unwarranted Queen, 80c.; four for $3.00. Sent by mail; safe arrival guaranteed. Address,

4-7 **T. N. HOLLETT,** Pennsville, Ohio.

COMB FOUNDATION,

For sale at **40c.** per lb., by **WM. HAMILTON,** 103 W. Main Street, Louisville, Ky. 4-6

BOKHARA CLOVER SEED.

We have received a lot of Imported Bokhara Clover Seed, which we can sell at 50 cents per lb. If sent by mail, 70 cents per lb.

THOMAS G. NEWMAN & SON, Chicago, Ill.

THE SPIDER PLANT.

I can now supply bee-keepers with the **SEED** of this remarkable honey plant. Price, $3.00 per lb.; 25 cents per ounce. Address,

4-6 **J. A. MAGOUN, Jr.,** Sioux City, Iowa.

PURE BEESWAX.

Bought at best market rates, and paid for promptly.

J. LEE SMITH & CO.,

1-6¶ 86 Beekman St., New York

☞ **CYPRIAN AND ITALIAN QUEENS AND NUCLEI.**—A Descriptive Price List will be sent Free. **JULIUS HOFFMAN,**

1-6¶ Fort Plain, Mont. Co., N. Y.

We are wintering over many very choice HOME-BRED and IMPORTED

Italian Queens,

and expect to be able to fill all orders at an early date for **TESTED QUEENS** from **AMERICAN** and **IMPORTED MOTHERS.** The queen-cells are reared in full colonies, and only the best selected.

We will also take extra care in selecting and preparing for shipment of

Nuclei & Full Colonies,

WITH TESTED QUEENS.

For Prices, etc., see our Illustrated Catalogue. Write for it, if you have not received it.

Address orders early to

THE AMERICAN BEE JOURNAL,
972 and 974 West Madison St., CHICAGO, ILL.

J. M. BROOKS & BRO'S.

Golden Italians.

Fine Tested Queens a specialty. **Send for Circular, and see what others say of them.**
Columbus, Ind., Box 64. 3-9

Sent Free!

Thoughts for Bee-Keepers,

Giving **BOTTOM PRICES** on all kinds of Bee-Keepers' Supplies. Address,
3-4 **G. P. McDOUGALL,** Indianapolis, Ind.

CANADA BEE-KEEPERS,

Send for my Circular of Apiary Supplies for 1880, giving prices of Hives, Extractors, Comb Foundation, Bee Smokers, Bee Journals, etc.
M. RICHARDSON,
1-4 Box 212, Port Colborne, Welland Co., Ontario.

Price List for 1880, of Italian Bees, Queens, 4 frame Nuclei, and Apiarian Supplies, **Sent Free.** Address,
3tf **H. H. BROWN,** Light Street, Col. Co., Pa.

CHAS. F. MUTH,

CINCINNATI, O.,

Manufacturer of and dealer in

MUTH'S ALL-METAL HONEY EXTRACTOR

AND UNCAPPING KNIFE,

LANGSTROTH BEE HIVES,

Glass Honey Jars and Tin Buckets, Bee Veils, Gloves, and a general assortment of Bee-Keepers' Supplies,

ALSIKE CLOVER,

and a variety of Field and Garden Seeds, etc. For further particulars address,

CHAS. F. MUTH,

4-12 976 and 978 Central Ave., Cincinnati, Ohio.

Read This.

We are prepared to give bottom prices on all kinds of Bee Hives, Sections, &c., but we make a specialty of the "Boss" One-Piece Section, heretofore called the Lewis Section, of which *I am* the inventor. See article in February number of A. B. J. on this One-Piece Section. Send for Price List.

JAMES FORNCROOK & CO.
Watertown, Wis., April 1st, 1880. 4-1t

PRIZE-BRED ESSEX PIGS.

Essex are the best Farmers' Pig; have been known to dress 90 per cent. of live weight; small bone, light offal, quick to mature. Jos. Harris, author of "Harris on the Pig," etc., says of my Boar "Porter," that he is the finest Essex Pig he ever saw. A few **Pedigree Pigs** for disposal at moderate prices, suitable for breeding or exhibition. Personal inspection of my stock is solicited. All correspondence will have cheerful and prompt attention.

C. W. CANFIELD, Athens, Pa.

N. B.—A limited number of Eggs for hatching from prize-winning Brown Leghorns and Black Red Bantams, at $2.00 per 13. Warranted to hatch. 4-y1

Langstroth Bee Hives,

HONEY EXTRACTORS,

and Section Boxes, at reasonable rates for 1880. Extractors from $10.00 to $12.00. Prize Boxes, $4.00 to $5.00 per 1,000. Address,
R. R. MURPHY,
4-6 Garden Plain, Whiteside Co., Ill.

Send for Price List of Bees, Queens, Comb Foundation, and APIARIAN SUPPLIES generally. Address,
A. F. STAUFFER,
4-1tp Sterling, Whiteside Co., Ill.

WILBOR'S COMPOUND OF

PURE COD LIVER OIL AND LIME.

To One and All.—Are you suffering from a Cough, Cold, Asthma, Bronchitis, or any of the various pulmonary troubles that so often end in Consumption? If so, use "*Wilbor's Pure Cod Liver Oil and Lime,*" a safe and sure remedy. This is no quack preparation, but is regularly prescribed by the medical faculty. Manufactured only by A. B. WILBOR, Chemist, Boston. Sold by all druggists. 1t

HEDDON'S CIRCULAR,

For 1880, is now ready. It gives prices and descriptions of those figured Spruce Sections and 2-comb Honey Boxes, his new Langstroth Hive, Full Colonies of

ITALIAN BEES,

SMOKERS, KNIVES, VEILS, GLASS, DUNHAM FOUNDATION, DOLLAR & TESTED QUEENS,

Also what he believes to be the best

BEE FEEDER

yet invented. Circulars sent only to those who request them. Send full address (include county) to

JAMES HEDDON, Dowagiac, Cass Co., Mich. 3-9

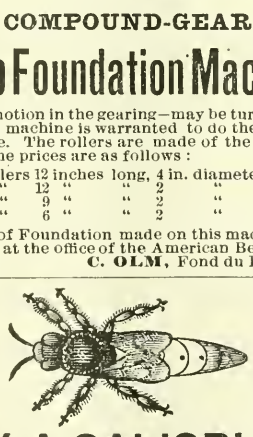
THE LATEST IMPROVED
COMPOUND-GEAR
Comb Foundation Machine.

No lost motion in the gearing—may be turned either way. The machine is warranted to do the work like the sample. The rollers are made of the best type metal. The prices are as follows:

No. 1—Rollers	12	inches	long,	4	in. diameter.... $75 00
" 2	" 12	"	" 2	"	.... 40 00
" 3	" 9	"	" 2	"	.... 25 00
" 4	" 6	"	" 2	"	.... 15 00

Sample of Foundation made on this machine free. For sale at the office of the American Bee Journal.

3tf **C. OLM**, Fond du Lac, Wis.

1880.  1880.

REV. A. SALISBURY,

CAMARGO, ILL.,

Pure Italian Queens, Bees, Foundation Combs, Honey Extractors, Dunham Foundation Machines, &c. **Send for circular.** 3-8

SEND FOR PRICES OF

Langstroth Simplicity Hives, Sections, Frames and Comb Foundation,

Manufactured by

MERRIAM & FALCONER,

3-2t Jamestown, N. Y.

Hale's Price-List.

Send for my price-list of Bees, Queens, Nuclei, &c., for 1880. Early Queens a specialty. Address,

2-11 **E. W. HALE**, Wirt C. H., W. Va.

DADANT & SON

COLONIES,

With Imported Tested Italian Queen $13 00
" Home-bred " " " 9 00

Hybrids or blacks in movable-frame or box hives. Have wintered over

100 IMPORTED QUEENS,

and will continue to receive two shipments every month, from May to September.

Root and Dunham Foundation.

The purest and brightest yellow foundation made. Hives, Extractors, Uncapping Cans, Veils, Smokers, Pails, Jars, Knives, etc. Send your name on a postal card for circular and sample of foundation free.

CHAS. DADANT & SON,

3-8 Hamilton, Hancock Co., Ill.

For Sale Cheap.

200 Colonies of Italian Bees.

Having over 450 Colonies of Italian Bees, I will sell 200 in lots of 25, 50, 100 or 200 at $5.00 each, delivered on board of any Mississippi river steamboat. All the Queens are daughters of Imported Mothers, of different parts of Italy. ☞Dollar and Tested Queens now ready to ship. Comb Foundation, Apiarian Supplies, &c. Address,

3-tf PAUL L. VIALLON, Bayou Goula, La.

1880.— —1880.

Italian Queens, Nuclei, &c.

Single Queen, Tested..... $2.00
" " Untested (laying) 1.00

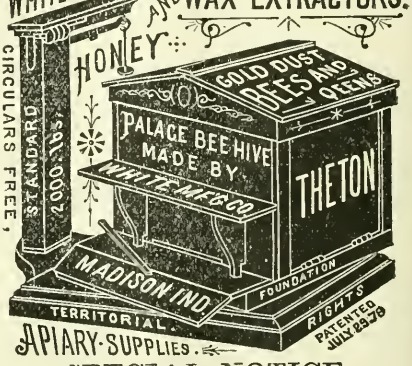
By the dozen, 10 per cent. off of above prices. Queens sent by mail and postage prepaid.

3 frame Nucleus, Untested Queen..... $3.00
2 frame Nucleus, Untested Queen..... 2.50
1 frame Nucleus, Untested Queen..... 2.00
8 frame Colony, Untested Queen..... 6.00

Sent by Express. Send money by P. O. Order or Registered Letter. Address,

W. P. HENDERSON,

3-8 Murfreesboro, Tenn.



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4-tf **Madison, Ind.**

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would call attention of all desiring supplies for their apiaries the coming season, to the fact that they are prepared to lead the trade in

DUNHAM FOUNDATION,

ITALIAN BEES AND QUEENS,

Modest and Langstroth Bee Hives,

Honey Boxes, Sections, &c.

Wax worked to order on Shares or for Cash.

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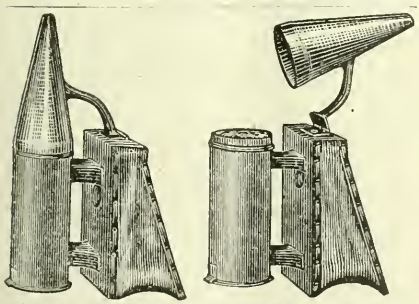

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with high sharp side-walls, 10 to 14 feet to the pound, HAS BEEN USED the past season in FULL SIZE SHEETS in Surplus Boxes, adding LARGELY to the YIELD and to MARKET VALUE of the honey.

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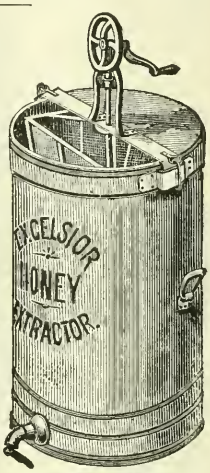

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Smoker is pronounced the finest improvement ever made on smokers. No more sparks or ashes in the hive. Doolittle says : "The arrangement to change the draft so as to make it a cold-blast, after the fire is kindled, places it ahead of any smoker in the market by a long way." So say all who see and test it.

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Essex are the best Farmers' Pig ; have been known to dress 90 per cent. of live weight ; small bone, light offal, quick to mature. Jos. Harris, author of "Harris on the Pig," etc., says of my Boar "Porter," that he is the finest Essex Pig he ever saw. A few **Pedigree Pigs** for disposal at moderate prices, suitable for breeding or exhibition. Personal inspection of my stock is solicited. All correspondence will have cheerful and prompt attention.

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N. B.—A limited number of Eggs for hatching from prize-winning Brown Leghorns and Black Red Bantams, at $2.00 per 13. Warranted to hatch. 4-y1

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PIETRO PILATI,

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	April, May, June.	July, Aug.	Sept., Oct.
1 Queen.....	11.50 francs.	9.50 francs.	6 francs.
6 "	66 "	55 "	35 "
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I guarantee purity, prolificness and safe arrival. Should any die *en route* they will be replaced. The value of a franc is 18¾ cents in gold. I solicit American orders. 4-5

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We have received a lot of Imported Bokhara Clover Seed, which we can sell at 50 cents per lb. If sent by mail, 70 cents per lb.

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THE SPIDER PLANT.

I can now supply bee-keepers with the **SEED** of this remarkable honey plant. Price, $3.00 per lb.; 25 cents per ounce. Address,
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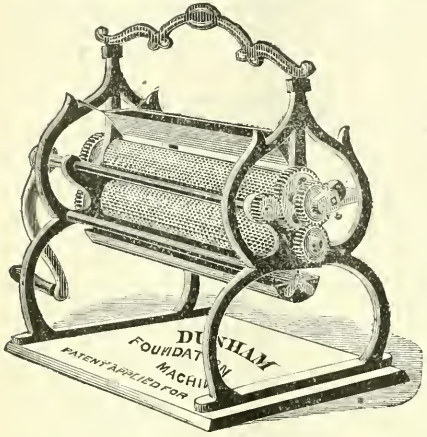

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9	"	"	38.00
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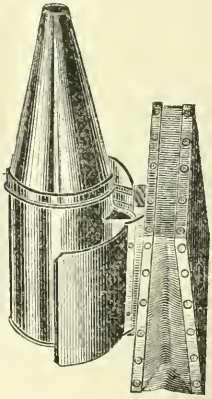

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No Bingham Smoker has ever been returned. No letter has ever been received complaining that our Smokers did not give entire satisfaction: but we have received hundreds of letters expressing the most unbounded satisfaction and preciation of our invention.

The Extra Large Smoker and the Extra Standard for 1880, will have our new extra wide shields, which entirely protect the hands and bellows from heat and remove the danger of burning the fingers. Practical bee-keepers will find these wide shields an important improvement. The Plain Standard and Little Wonder Smokers will be better than ever before, and superior to any imitation smokers, whatever their size may be.

Hundreds of them have been in constant use three seasons, and are now as good as new. One dollar and a half is not much for the use of such an instrument three seasons; is it?

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HONEY KNIFE.

Patented May 20, 1879.

It is a large, strong, durable knife, polished and tempered like a razor, and so formed and sharpened as to cut both ways, over hills and through hollows all the same, without dropping a cap on the honey. The most world-renowned, practical and scientific Bee-Keepers in Europe and America pronounce it "the best Honey Knife ever made."

Extra Large Smokers	2½	inch,	$1 50
Extra Standard Smoker	2	"	1 25
Plain Standard Smoker	2	"	1 00
Little Wonder Smoker, $3.00 per half-dozen; each	1¾	"	75
Bingham & Hetherington Knife			1 00
Bingham & Hetherington Knife and Cap-Catcher			1 25

If to be sent by mail, or singly by express, add 25 cents each to prepay postage or express charges.

☞ Send for circular. If to sell again, apply for dozen or half-dozen rates. Address,

2-9 **T. F. BINGHAM,** or **BINGHAM & HETHERINGTON, Otsego, Mich.**

THE AMERICAN

BEE JOURNAL

Devoted Exclusively to Bee Culture.

Vol. XVI. CHICAGO, ILLINOIS, MAY, 1880. No. 5.

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Editor's Table.

☞ Those who have never used comb foundation should try it, and surprise themselves with the result. It is very valuable in building up swarms, nuclei, etc.

☞ A member of Congress has introduced a bill to levy a direct tax on oleomargarine of 10 cents per lb. It would be better to put glucose with it; but better still to pass a general law against all adulterations. The former can neither pass nor be enforced; the latter could be enforced if passed, and should become a law without delay.

☞ This will be a busy month with bee-keepers if the weather is favorable. Build up the colonies and keep them strong, so as to be able to take care of the flow of honey when it comes. Get the hives ready in good season for swarms. Do not wait till needed before ordering hives, boxes, etc. Have them on hand *before* needed, and thus save much perplexity.

☞ Mr. Frank Benton, who has now arrived in the Island of Cyprus, writes under date of March 16, that Mr. Jones, himself and his wife, arrived there about ten days previously, and had already purchased 100 colonies of Cyprian bees with which to start their apiary for rearing Cyprian queens. We shall anxiously watch the progress of events in that line, and keep our readers posted in reference to the results.

More Queen Cages.

Since our last issue we have received the following, with accompanying cage :

Bristol, Vt., April 9, 1880.

I send you my new shipping and introducing cage combined, which I completed yesterday. They can be used with candy and water, honey and candy, or honey alone. Will they fill the bill ? A. E. MANUM.

It is a square block, having a round hole in it, very much like those used for the past 2 or 3 years ; a piece of wire cloth over this hole sinks into the hole ¼ inch, then another piece of wire cloth passes over it and down around the four sides, fastened with small staples. A little piece of sponge is placed in a groove at one side for water or honey. Candy can be poured into the bottom. The wire cap is intended for introducing. Water and honey are unmailable articles, and cannot, therefore, be used when sending queens by mail; otherwise, we think this cage comes within the requirements of the law.

Columbus, Ind., April 12, 1880.

EDITOR JOURNAL : I send you another queen shipping cage, *improved*. It has 2 perforated tins ¼ inch apart. The top one is bent down over the 4 air holes. In the April JOURNAL you seemed to think my cage a good one, with the exception that it did not have the double screen. The one I send to-day I think fills the law to the letter. JOSEPH M. BROOKS.

Yes, it does ; and it is a good cage, too. We are glad to notice a disposition to adhere both to the spirit and letter of the law in this matter.

Smithsburg, Md., April 9, 1880.

I send you, by accompanying mail, a sample of queen cage which cannot fail to fill the bill or answer every requirement of the ruling of the Postmaster General on the subject of cages for shipping queens. The cage should be bored with larger bits, but owing to my want of them was obliged to use the ones in my possession; however, you can form a clear idea from the sample. The hole at the side should be supplied with a cork, to allow the easy insertion of queens, but should be covered with wire cloth at a place which affords more conveniences for the operation than at the hive. Please give your opinion of it in the JOURNAL. D. A. PIKE.

It is a good cage, and is "according to law."

Wenham, Mass., April 17, 1880.

I send sample of the queen shipping cage, made as I suppose we must use them this season. It is the same as I have been using for 12 years, with the exception of the small pieces of wire cloth over the holes in the cover. I also send another which is proof against all damage. H. ALLEY.

It is an excellent cage, strong and fully up to the requirements of the postal law, with its double wire screens, dry food, etc.

Alderly, Wis., April 15, 1880.

I send you by to-day's mail a queen cage, which I think will meet all the requirements of the law. Please examine and pass judgment upon it. RICHARD HYDE.

This is a square block with a hole in the centre for the bees and queen. On each of the four sides is a hole clear through; the sides being ¼ of an inch thick, and covered with wire cloth inside and out. It completely answers the requirements of the law.

Mount Joy, Pa., April 20, 1880.

I send you my queen mailing cage to hold 2 queens. It can be made to hold any number, from 1 to 6 in one block; 2 queens will go for 2 cents. Is it according to the regulation of the Postmaster General ?

J. F. HERSHEY.

It is ; but we should prefer it to be a little larger, even if it did cost another cent to carry it. It is an ordinary hole in a block with two pieces of wire cloth ¼ of an inch apart.

Carlisle, Iowa, April 19, 1880,

I send you a sample of my cage for mailing queens. I have used such for two years before the Postmaster General prohibited bees passing through the mails, and it has always proved a success. I have sent queens as far as Colorado (about 1,200 miles), and have never lost a single queen. Heretofore I have used only a single wire cloth, but by putting on a strip ¼ inch thick and using another wire cloth on that, makes a double screen cage. The ¼ inch hole in one corner is for candy, which the bees can easily get at and without any danger of getting daubed. To make this cage, use 1¼ inch lumber, and then not bore quite through, so that all the extra piece you have to use is the top ¼ inch thick. The entrance at the side is stopped by a cork, which makes it secure. All are at perfect liberty to use it.

J. E. HASTINGS.

It is nicely made, quite durable, and answers the law to a dot.

We have also received Peet's combination cage improved, so as to conform to the law, having a double wire screen. It contains a tin tube for water; but as liquids are unmailable, it is probably to be used when sent by express.

Wax Adulterations.

EDITOR BEE JOURNAL: Please give some simple test to apply to comb foundation to ascertain if the wax is pure. J. CRAWFORD.

The "United States Dispensatory" gives the following tests for detecting adulterations of beeswax:

"To detect paraffine in wax, heat it with fuming sulphuric acid, which destroys the wax, converting it into a black, jelly-like mass, while the paraffine is left as a transparent layer on the surface."—*American Jour. of Pharm.*, xxxiv., 35.

"M. Dullo treats the adulterated wax with ether. If this dissolves more than 50 per cent. the presence of paraffine is indicated."

The "National Dispensatory" gives the following tests:

"The admixture of fats may be detected by the acrid odor of the vapors given off, on throwing the suspected wax upon red-hot charcoal."

"Adulterations with flour, white lead and similar substances are readily detected by their insolubility in ether and oil of turpentine, and by subsiding or mixing with hot water on fusing the wax with it."

☞The Central Michigan Convention was held at Lansing on the 15th ult. It was a large and enthusiastic meeting. Papers were read as follows: By Geo. L. Perry, on "Comb Foundation;" by Stephen P. Perry, on "Water for Bees;" by President Ashworth, on "Breeding Queens;" by Professor A. J. Cook, on "Some Curious Honey Gatherers of Colorado." The experience in wintering was generally favorable. None had lost except a few who had fed their bees on glucose. One member had lost 40 colonies, which he attributed to this cause. Among the topics discussed were "Spring Dwindling," "Dollar Queens," "Queen Rearing," "Putting up Honey," etc. The following officers were elected: President, W. J. Ashworth; Secretary, George L. Perry; Treasurer, Mrs. L. B. Baker. The next session will be held at Lansing on the first Thursday of October. The official report will appear in our next issue.

☞The Rev. James W. Shearer, a vigorous and pleasant apicultural writer and speaker, was bereaved on the 10th ult. by the loss of his affectionate wife. We sympathize with him in this affliction.

☞Mr. J. Beyer, Butlerville, Ind., has sent us a sample of his Italians. They are very fine and well marked; they were chilled by the cold weather while coming in the mails.

☞A swarm is reported by Mr. D. S. Haines, of Edwardsville, Kan., from an Italian colony on April 23; it settled near by, and was hived and went to work at once. He says: "It is the earliest swarm I ever knew in this latitude; my bees have been gathering much from fruit bloom, which will account for it, perhaps." Several earlier ones are reported even further north than that this year, where the weather was propitious and the colonies had been breeding largely and were very strong.

☞We have received several numbers of the "Humboldt Library," being a reprint of the popular expositions of science by the foremost writers of the time, in cheap form. Each number is complete in itself, and contains from 32 to 48 pages, as may be required to give the complete copy of the author. The price (15 cents for any number) brings it within the reach of all. The works here republished in a year would cost $30 or $40, while, in this cheap form, they will cost but $3. They can be obtained of any newsdealer or of the publishers, J. Fitzgerald & Co., 294 Broadway, New York.

CATALOGUES OF SUPPLIES.—In addition to those already enumerated, we have received circulars and price lists from the following dealers:

I. S. Crowfoot, Hartford, Wis.
W. R. Field, Richland, N. Y.
S. P. Blomiley & Co., La Grange, Wis.
Charles Olm, Fond du Lac, Wis
L. H. Pammel, Jr., La Crosse, Wis.
Henry Alley, Wenham, Mass.
Scovell & Anderson, Columbus, Kan.
S. Valentine, Double Pipe Creek, Md.

Cheek and Assurance.

On April 12th we received an envelope addressed to us, but containing not a word or line except the following:

A Card.

To Messrs. Bingham, Clute, Doolittle and others:

In the AMERICAN BEE JOURNAL for April I notice you make several *base* charges, which not only cast unprincipled reflections upon the characters of some of America's most eminent and distinguished apiarists, but denounce with ridicule and scorn the proceedings of one of the *oldest* and *largest* associations on this continent. I brand these charges as *premeditated misrepresentations*, as unqualified as they are inconsistent. In behalf of the Committee on Implements, permit me to say that not only are the names of those gentlemen far above reproach, but they are well known as men of honesty, ability, large experience, unbiased and disinterested, and I dare say passed upon the articles in accordance with their true merits. As I am demanded to prove my charges or make a public apology, I wish to say: As my former communications have been suppressed and mutilated, I demand that you select and name a journal that will publish my reply in its entirety, and I will guarantee to prove all charges made by me to the satisfaction of the public, and I will endeavor to be as gentlemanly in my references as is consistent with my position. Inasmuch as you have held me up to ridicule and scorn, I claim the right to have *this* published, as well as the paper entitled "Past Events."

GEORGE W. HOUSE.

Fayetteville, N. Y., April 9, 1880.

It will be noticed that, in the above, it is *demanded* of the gentlemen named (not of us) to have the "Card," &c., published; as neither of them have anything to do with the management of a paper, this is really amusing.

In the light of the fact that the BEE JOURNAL has *never* received more than ONE communication from the writer of the above "Card," and that *one* was refused because of its abusive spirit, his charges of "mutilating" and "suppressing" his articles, are supremely ridiculous! Let us hope that age and experience will teach him to be more accurate in his statements and courteous in his remarks.

At the Utica Convention the writer of the above "Card" publicly intimated that articles sent to the BEE JOURNAL, were submitted to "Bingham, Clute, Doolittle & Co.," and unless approved by them were not allowed to appear in the JOURNAL. Knowing the statement to be wholly and absolutely untrue, we wrote to each of the persons named, asking if any articles intended for the BEE JOURNAL had ever been submitted for their approval or disapproval. They severally replied in the following very explicit language:

Mr. Bingham said: "I have never been so honored or thus consulted."

Mr. Doolittle said: "I have never seen even one such communication before publication."

Mr. Clute said: "I affirm most fully and positively, that nothing was ever sent to me from the office of the AMERICAN BEE JOURNAL, or from any person who has any connection with that office, either directly or indirectly for my approval or disapproval. My advice has never been asked or given, as to the articles which should appear in the JOURNAL, nor as to the method and spirit in which it should be conducted."

For thus daring to state the facts in the case, the above "Card" insults them with such epithets as "base charges," "unprincipled reflections," "premeditated misrepresentations," "ridicule" and "scorn"!

These gentlemen were not at all interested in the controversy, and their names were maliciously dragged into it, by the assailant, without pretext or reason. Their denials of the charges were gentlemanly, courteous and positive; and given wholly in the interest of truth and right, with no sinister motive. Now to insult them with the offensive language used in the above "Card," is contemptible in the extreme, and exhibits the disposition of the writer as well as betrays the desperate cause he has espoused.

As nothing can be gained by a prolongation of a controversy conducted in such a disgusting manner, we shall dismiss it for the present, unless *new* points are developed. It is entirely useless to allow any one to cover another with "filth" or "dirt," simply for the *fun* of seeing how dexterously it can be cleaned off.

☞ Bingham still has a "corner" on smokers.

☞ A great many of the co-operative associations in England and Scotland have been compelled to give up business on account of lack of business capacity in the members.—*Cin. Grange Bulletin.*

☞ We are prepared to supply all new subscribers with the numbers from January when it is so desired.

☞ The Northeastern Wisconsin Convention will meet at Waupun, Fond du Lac Co., Wis., on Tuesday and Wednesday, May 4th and 5th. Interesting papers, by prominent bee-keepers, will be read.

FRANCES DUNHAM, *Sec'y*, Depere, Wis.

Harris' Gem Hive.

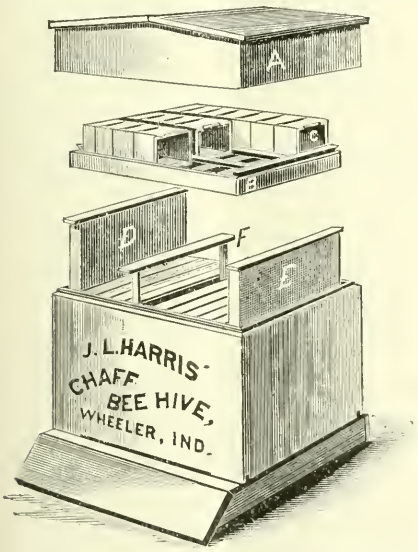
This is another addition to our Museum. It uses the same sized frames as Oatman's Modest Hive. Mr. Harris gives the following description of it:

The brood frames (F) are nearly square, the top bar being 13½ inches long; end bars, 10⅝ inches, and the bottom bar, 11⅜ inches; making a frame 12x11 inches outside.

The body of the hive is square, measuring 18½x18½ inches outside.

At the front and back of the hive are reversible cases, closed on one side each with ⅜ inch boards, and top-mounted with metal rabbets. The same style of cases (E) are fitted in the ends of the hive, which are also reversible, and can be used to contract the brood chamber to any size desired.

The cases described above can be packed with chaff, straw or leaves, and the open side covered with burlaps, tacked around the edges; or the spaces can be left unfilled,



forming an air-space between the outer and inner walls of the hive. For wintering on summer stands, these inner cases may be turned, bringing the warm cushions next the bees. This forms an excellent absorbent of inside moisture, and also keeps the bees at an even temperature, being warm in winter and cool in summer. With this packed, double-wall arrangement, bees are not lured from the hive, to chill and die, with every comparatively mild day in winter; while in spring, a continuous spell of warm weather, of several days' duration, is required to entice the bees forth in the vain search for "fairer fields and pastures green."

Where extracted honey is the aim of the apiarist, the second story is made a duplicate of the lower story, holding 10 frames, and also provided with the inner wall.

The second story is omitted in *all* cases where comb honey is wanted. The cap (A) is the same in all, and racks are furnished (as in cut) to hold any sized box or section desired; but will be made for 21 4¼x4¼ unless ordered otherwise.

If comb honey in prize boxes (5¼x6¼, or 2 lb. sections) be desired, the second story is omitted, and in its stead a rack holding 14 boxes, with an 8 inch cover (A) can be used. These racks are provided with bottom strips, made of split-basker stuff, just the width of the sections, which serve admirably to keep the sections clean, and prevent much annoyance from fastening down.

☞Mons. J. Fiorini, an Italian queen breeder, who for several years has furnished Messrs. Dadant & Son with queens from Italy, went to the Island of Cyprus last November. He spent two months there studying the habits of the native bees, and, having procured 8 colonies, returned with them to Northern Italy. He found much difficulty in obtaining them, on account of the superstition of the natives; they think that if they sell any bees to foreigners that all the rest of their bees will leave of their own accord, with the colonies sold.

☞Mr. John R. Lee, Vice President of the National Association for Alabama has removed to Arkansas, and recommends the appointment of Mr. J. A. Austin, of Huntsville, Ala., as his successor. He is, therefore, duly appointed, and will enter upon the duties of that office at once.

☞Mons. Dennler, in the Alsatian *Bienen Zuechter* says that to prevent his sugar syrup, made for feeding the bees, from granulating, he adds half a teaspoonful of cream of tartar or glycerine to every 2 lbs. of the sugar syrup.

"Our Apiary" is the title of a new paper started by Johnson & Homrighous. It is a monthly of 16 pages, and costs 50 cts. a year. It is a mixture of agriculture, apiculture, and religious enthusiasm. Its appearance is quite creditable.

☞The Rev. M. Mahin has removed from Logansport to Huntingdon, Ind.

Bee Notes from California.

The *Semi-Tropic* has the following items of intelligence concerning bees in California:

We have placed our estimation of the loss of bees (up to willow bloom) this season at three-fourths; leaving one-fourth out of what there was last season to commence work this season. We regard this estimate rather low, if out of the way at all; many have lost all, while a large majority have lost from 50 to 75 per cent.

Capt. Gordon, of the Arusa, informs us that the mortality among his bees has been fearful; 200 colonies have passed in their checks.

Mr. H. D. McGeorge, who resides about 40 miles west of Los Angeles, on the coast, informs us that wild bees are quite numerous in the woods and rocks in his vicinity, and that he will capture from 100 to 150 colonies this season. Mr. B. Franklin, an apiarist in the Cahuenga mountains, will leave in a few days to assist him.

Albino Bees.—Mr. S. Valentine, of Double Pipe Creek, Md., has sent us by mail some of his albino bees. They were received in good condition, and were very bright and fine. The following is his description of them: The difference between them and pure Italians as to marking is very striking; about the eyes they approach nearer a purple than that of the Italian; beginning at the waist they have three distinct yellow bands, then three distinct white bands—the white is pure, not muddy and dirty; the wings are finer, and of a bright, silver color.

☞The price of tin has advanced so much of late that the manufacturers of many extractors have been obliged to advance the prices of them. See revised prices on page 255 of this issue.

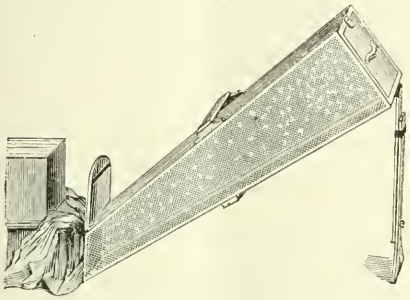
☞The immense number of inventions and improvements patented in this country has astonished our English cousins. The following satire is copied from London *Punch:* "A Yankee baby will crawl out of his cradle, take a survey of it, invent an improvement, and apply for a patent before he is 6 months old."

A Honey King.—The Montreal *Witness* says: "The other day we had a call from a Butter King, and Thursday Mr. Valiquet, of St. Hilaire, who is deserving of the title of the Honey King of this province paid us a visit. He has written several articles on the subject of bees and honey which deserve the attention of our apiarists and those whose inclinations favor bee culture, which, although by no means general in this province, if conducted with skill, is very profitable. Some samples of honey brought in by Mr. Valiquet (one being 9 lbs. of granulated honey which he was about to present to a prominent retail grocery house) were the finest we have ever seen. This sample was firm, and could be cut like cheese; he says only few localities can produce honey so good, as it requires cane sugar, such as is extracted from basswood by the bees. This sample, he said, was purely ripe. Some honey, when extracted, contains as much as 20 per cent. of water, but if purely ripe it contains only from 5 to 7 per cent. Mr. Valiquet also showed a sample of comb honey of the same kind, the product of a hive—76 lbs. It was put up by the bees in a box with sections. He had some boxes of sections that weighed as much as 130 lbs. put up in marketable form. A third box of honey shown was the result of a hive of Italian bees which he had wintered. The colony had been allowed to give off one swarm, which, when put in a new hive, produced 81 lbs. of first-class white honey, and 18 lbs. of an inferior quality, making altogether 99 lbs., all put up in a box of sections. The parent hive produced 80 lbs of extracted honey of the first quality. This is considered a large yield; other hives averaged 65 lbs. The advantage of the section boxes are that the sections can be removed from the hive at any time without interfering with the bees, and taken to market in less bulk than under the old plan, there being less weight of wood and glass to carry. Last season the honey crop in Europe and different parts of the United States failed. In Canada, however, the crop was considered very good. While the clover, the chief pasturage of the bees, did not yield much, however the basswood, which abounds in Canada, supplied the want, and we had a crop of good quality as a result."

☞A convention in the interest of bee keepers is to be held during this month in Salt Lake City, Utah. Bee keepers in Utah can find out more about it by writing to the *Utah Farmer*, published at Salt Lake City.

Bailey's Swarm Catcher.

Mr. J. W, Bailey, of Ripon, Wis., has obtained a patent on the swarm catcher shown in the accompanying illustration.



All will see at a glance its object and uses. It can be seen at our Museum, by all who wish to examine it.

☞ We are mailing a large number of copies of the JOURNAL to Great Britain and other countries of Europe, and it is very seldom that a number is lost in the mails, as the addresses are all printed. Should any, however, be lost, we always cheerfully send duplicates, when notified of the fact. We have just been informed of one lost through the carelessness of a postal clerk, who had taken the BEE JOURNAL from the wrapper and failed to return it, after examination—the empty wrapper alone reaching its destination. We think we are safe in saying that not 1 in 500 copies fail to reach their proper destination promptly. Our subscribers in any country need have no fears about losing any numbers. Should one not come to hand within a week of its regular time they should notify us, and another will be sent at once.

☞ Mr. J. Stewart, Rock City, Ill., writes: "Would it not be best to print in the BEE JOURNAL the addresses of the Secretaries of each Bee-Keepers' Association? We often desire to correspond with the different associations, but can rarely find the address of the Secretaries." This point is well taken, and we will in future incorporate this in our convention directory.

Sensible Advice.—So much that is inconsistent is often found in agricultural papers on the subject of "who should keep bees," that we give the *Western Rural* credit for the following sensible talk on the subject:

"The *Western Rural* believes that bee keeping is a source of both pleasure and profit. With the new inventions that are now furnished the apiarist, much that was disagreeable about bee keeping has been obviated, and the business has become pleasant and remunerative. We would not, of course, advise every one to rush headlong into bee keeping. It is not every farm that is properly located for the business, and it is not every man who is fit for it. A little thought will naturally show the work of the apiarist to be a delicate one, requiring patience and the exercise of good sound judgment. The business requires constant study, too. The man who buys a colony of bees and thinks no more about the little workers, and does not care to learn their nature and habits, had better keep out of the business."

☞ The paper used on the BEE JOURNAL for the past few months was made expressly for it, but was not such as we ordered or wanted. At the time we felt under obligation to take it, as it had been made for us, but we have regretted it ever since. It lacks stiffness and body, and as soon as this lot is used up (about 3 numbers more) we shall procure paper more to our liking.

☞ Mr. T. F. Bingham has sent to our museum a smoker bellows, having one side cut away to show the working of the different parts, as he makes them for the present season. It is a regular museum of itself—simple, ingenious, original and perfect.

☞ Farmers should never be in a hurry to purchase from travelers. It will often save them money and law costs to address a letter to advertisers of implements, trees, seeds, etc., as advertisers generally have a reputation and capital at stake. The glib talker you may never see again; but if it takes your farm that note will have to be paid, whether you get rubbish, value or nothing. Deal direct with established and responsible persons, if possible.—*Farm Advocate.*

The "Resolutions" Repudiated.

Since our last issue we have received a "shower" of letters from apiarists all over the United States, condemning the hasty and unjust action of the North-Eastern Convention. This spontaneous outburst of indignation we fully appreciate, but cannot now give space to all the letters. The following are fair samples of them all:

The N. E. B. K. Convention could hardly have done the AMERICAN BEE JOURNAL more good by lavishing praises, than they have by thus over-reaching themselves. It must be its editor's success they envy—but you are, in justice, fully entitled to all the honor which every honest and laudable work accomplishes.—A. E. WENZEL, *New York.*

The N. E. Convention was rather severe on the JOURNAL and its editor. That was but a one-sided trial, and judgment rendered in too much haste. The last JOURNAL sums up the evidence in such a clear and strong manner, that it must sit quite snugly on the assailants.—A. SNYDER, *New York.*

FRIEND NEWMAN: I do not indorse the resolutions passed at the Northeastern Bee-Keepers' Convention. I was one of the first to vote for you for President of the National Bee-Keepers' Association, when held in New York. I think you have *nobly* and *honorably* filled the position, besides giving to us a publication well worthy the name of THE AMERICAN BEE JOURNAL, and I believe you intend to be fair in giving all a hearing through your columns.—C. R. ISHAM, *New York.*

I like the BEE JOURNAL very much, and shall let them co-operate their journal by themselves; the old one is good enough for me.—S. E. TUBBS, *New York.*

I would like to know how some of the N. E. Convention folks like their appearance, now that their masks are off?—*D., N. York.*

DEAR EDITOR: Allow us to extend "the right hand of fellowship," for so ably answering the charges made at our Northeastern Convention.—BENEDICT & NEWMAN, *New York.*

I have read with interest all the bee papers for April. I think that the North-eastern Convention could not have taken a more effectual method of killing the "co-operative" idea. They have not injured the BEE JOURNAL a particle.—F., *Wisconsin.*

The AMERICAN BEE JOURNAL is just at hand. I notice the trouble just broken out, and I do not like it. I like all the four bee papers, and take them all. I have been in the JOURNAL office but twice; the first time in Oct., 1878, and last Oct. During my first visit, I remember very distinctly Mr. Newman's stating that honey producers scattered their shipments too much, and the low price it caused honey to bring. After talking awhile with Mr. Newman, I went down to Water street, and priced the honey I saw there. At one place it was 25c. per lb., another 30c., next 20c., next 18c., and so on. I found nice white comb honey offered as low as 10c. per lb. I had forgotten about all this, till the fuss now raised brought it to my mind. I do not think the editor of the JOURNAL wished the price of honey put down, or he would not have spoken to me as he did, and I thank him for it, although I am no shipper; I can not supply the demand I have created at home. I learned much of value while at the JOURNAL office. —W. J. WILLARD, *Illinois.*

I notice that you have a north-easterly blast, but storms from that direction, though they may be disagreeable and long, seldom do much damage. I do not think that little squall will hurt you. I like the BEE JOURNAL much.—E. B. SOUTHWICK, *Michigan.*

I hardly think the Secretary of the N. E. B. K. Association merited so much attention as was shown him in the last JOURNAL. He is quite young, almost "too smart" for one of his age, and has very limited experience. —H., *Massachusetts.*

The Northeastern Convention is quite rough on the BEE JOURNAL. Have the members of that society forgotten the rule laid down long ago: "Let him that is without fault cast the first stone"? When they are faultless let them throw the first stone at the BEE JOURNAL—*but not until then.*— E. PICKUP, *Illinois.*

I wonder how the co-operative men feel now in their *real* clothing. Their "light in the East" is now about defunct. The last issue put a grand quietus on it; again the sea is calm. I have a number of letters showing how bee men feel about their late attack on the AMERICAN BEE JOURNAL.— J., *Michigan.*

MR. NEWMAN: Those resolutions against you for dealing in supplies for the apiary are unjust. They may as well *resolve* that commission merchants shall buy no honey except from them. Their intimation that you wanted to be re-elected President is as false as their statement that "the Chicago Convention was run by a ring;" you stated to the Convention that you wanted some other good man to take the Presidency. Bee-keepers have confidence in you, and as long as they find you honest they will buy supplies from you; and no one will object but the unreasonable and the prejudiced. —L. H. PAMMEL, *Wisconsin.*

The Utica Convention needs only to be viewed away from the scene, to be loathed. They have made a bad exhibit, and it will do the AMERICAN BEE JOURNAL more good than all the laudations they could have bestowed. If it is desirable to co-operate, why not co-operate bee-keepers' supplies as well as bee papers?—T., *Michigan.*

Any one carefully reading the various bee publications the past 5 years will have little difficulty in finding *which* among them is devoted to the interests of producers (the Northeastern Bee-Keepers' Association to the contrary notwithstanding), and when they will produce a better journal for our consideration, we shall cheerfully give them our support. But the "old and reliable" AMERICAN BEE JOURNAL is too firmly

fixed in the affections of the fraternity to be shaken by such vague, unfounded assertions, and any attempt to found a new publication on such flimsy pretexts, when so many are already in the field, will most assuredly fail. No, no, gentlemen; what we want is BETTER magazines, *not more of them!* It was, doubtless, exceedingly kind of the gentlemen to inform us of the danger; but, somehow, we fail to appreciate the favor, and think we will "jog along" *with the* AMERICAN BEE JOURNAL for the *rest of the year*, at all events!—C. S. BURT, *Ohio*.

The following from our contemporaries will show how they view the matter:

Mr. A. J. KING, *in Bee-Keepers' Magazine, New York*, says:

The cause of truth, and a desire to do as we would be done by under similar circumstances, compel us to observe:

1st. We have already expressed ourself regarding the National Convention at Chicago, and see no reasons for modifying those expressions.

2d. Regarding that Convention being run by a *ring*, we will say that we have heard from most, if not all of the men whose names occur in the report of the National Convention, as composing this "ring," and all deny sustaining any such relation to the National Association; and as they are men of acknowledged honesty, we feel bound to accept their statements.

This Convention was one of the largest ever held on this continent, yet Eastern bee-keepers were scarcely represented at all, but when the same Association convened in this city, the West was well represented. So, if the Chicago Convention "smacked" somewhat largely of Western ideas and interests, we have little room for fault-finding.

In regard to Mr. N. representing American bee-keepers abroad....As he paid his own way and consumed his time without recompense from the American Association, it is but natural to suppose that he would exhibit and press the sale of such books and implements as he was most interested in, and in this we cannot blame him.

Mr. A. G. HILL, *in Bee-Keepers' Guide, Kendallville, Indiana*, says:

Nearly one-half of the proceedings of the Northeastern Convention were devoted to condemning the present bee publications, and especially the editor of the AMERICAN BEE JOURNAL. He, like all the other editors, deals in apiarian supplies, and the Convention concluded that no one can be honest and sell bee-supplies. There is one difficulty in the way of immediately starting their new paper. An editor cannot live on the support of a convention, or resolutions, and it would be impossible for such a paper to pay expenses unless the editor had some other business in connection with it.

Mr. J. H. NELLIS, *Editor Bee-Keepers' Exchange, Canajoharie, New York*, says:

Your reply to House, Detwiler, Betsinger and others, whose accusations appear in the report of the Northeastern Bee-Keepers' Association, meets my hearty endorsement. I did not support the position taken by those gentlemen, nor did I vote for the resolutions. I would much rather not have published them, but as my report was to be an "official" one, I dared not "mutilate," lest I get my "neck in the sling."

I was very loth to publish it, for the reason that I prefer to keep altogether clear of quarrels, which always result in loss to *all the parties participating*. If you desire it, I will publish your reply, and will effectually close my columns to all further matter bearing on this subject.

You are free to publish this in the AMERICAN BEE JOURNAL, if you desire. I am, as heretofore, your friend, J. H. NELLIS.

Duty on Bees.—Please answer the following through the BEE JOURNAL: Is any duty demanded on queens imported from Italy? If any, how much? If no duty is required, why cannot they be sent by mail? I wintered 12 colonies without loss. All are doing well.

G. A. MCCARTHEY.

There is no duty on bees sent to this country for breeding purposes. They can be sent by mail, but the long and close confinement in a huge pile of mail bags may cause much loss—perhaps too much to make it profitable to send in that way.

☞ The proposition to put an import duty on honey in France has failed. That leaves that market open to us, as heretofore.

☞ A Canajoharie, N. Y., paper gives nearly a column to a descriptiion of Mr. Nellis' new fatory, and the details of his business. We wish the enterprise success.

☞ Poor health has induced Mr. Jas. Heddon to transfer his "supply" trade to H. A. Burch & Co. for this season. He will supply his local trade, and fill all orders sent him for full colonies of bees, but nothing more.

☞ We have received from the publishing house of Jules Caye, of Paris, a new book on the "Theory and Practice of Movable Frames in Apiculture," by T. Sourbe, edited by A. Quantin. It is an octavo volume, illustrated. Price 3 francs. To us the subject is well understood, but in France movable frame hives are but little known or used.

Correspondence.

For the American Bee Journal.

The Prospect for a Honey Harvest.

J. N. M'COLM.

My bees have come through the winter in fair condition, but my prediction is that Wisconsin will have no honey to brag of this year. The last three months have been a continual freezing and thawing; the result is that our clover and dandelion are practically used up, so that we will get but little benefit from them. And, as it is the off year for basswood bloom, you see that our chance is slim.

The first natural pollen made its appearance yesterday. We believe with Mr. Heddon, that the bee business is nearly overdone; at least, the "supply business." Nearly every mail brings us a "circular" from some "enthusiast," and if this thing continues we shall have a load of paper rags before the close of the year. Our prediction in regard to the latter subject is that one-half of the supply dealers will be driven out of the business in less than three years, from want of patronage. The production of honey will not sustain so many.

Plymouth, Wis., April 5, 1880.

[In Wisconsin and Northern Illinois we have heard that the clover has been injured—but the question is, to what extent? We should be glad to hear from bee-keepers on this point. Also, is it so in other localities? It does not appear to be injured around this city, though it is late in springing up.—ED.]

For the American Bee Journal.

Do We Need More Bee Papers?

JOHN F. BEAN.

Bee-keepers in this section read with regret the unjust and uncalled for resolutions of the "Northeastern Bee-Keepers' Association." We were really pained to see such a spirit manifested by any one, and surprised to think that an association possessed of so much intelligence should be guilty of such an act of injustice, and that, too, without any foundation whatever.

We do not see why an editor of a bee journal should not deal in supplies; in fact we really think he ought to, because he is able to judge of the merits of everything pertaining to bee culture. He also has a right, and we consider it a duty he owes to his readers, to devote a reasonable amount of space in advertising those supplies and in bringing before his readers everything that is new and valuable. We look to him to bring all valuable inventions to our notice; to criticise them in a just manner; and, if worthy, we are glad to know we can send our money to a responsible dealer and get due returns.

We are fully convinced that the columns of the AMERICAN BEE JOURNAL are open to all bee-keepers, and articles worthy of publication and of real interest to its readers, and not written in the interest of or through some selfish motive, receive due notice.

We neither desire nor do we need a co-operative bee journal. It would be impossible to run a journal on the plan proposed by our Eastern friends. May I be permitted to ask if it was not "selfishness" that prompted them to advocate a co-operative journal? We hope they will reconsider this matter, acknowledge to the world that they have acted unwisely, and make due amends for their hasty proceedings. One thing is certain: such resolutions instead of being an injury to the AMERICAN BEE JOURNAL will only build up its list of subscribers, and cause its many readers to stick to it closer than ever.

Allow me, before closing this, to say, we were truly glad to see the able manner in which the editor of the BEE JOURNAL treated the unjust accusations brought against him and the JOURNAL.

Mt Sterling, Ky., April 15, 1880.

For the American Bee Journal.

Increase, After-Swarms, Etc.

JAMES HEDDON.

I have been somewhat edified lately in reading various methods of increasing stocks of bees. I have been led to the following conclusions by my experience:

So long as honey brings the figures it has commanded the past season, and bees their present price, it is to the advantage of most apiarists who produce honey for an income, to do all in their power, consistently, to prevent increase. So far as my experience goes, I must say that I know of no practical preventives except shade and plenty of room at all times. There are many other methods equally certain, but they are either injurious or too laborious and expensive to be practically successful. Well, if you do not want any increase, you will

not be apt to purposely make it, consequently what you have will be from natural swarming. By the way, I am not sure, all things considered, that the last named kind of increase is not the most preferable in any case.

I have practiced artificial increase in many different forms, and the following has proved the most successful in all kinds of seasons, and with all sorts of locations and bee-keepers, so far as I have been able to find out. Just before swarming time, induce your choicest blooded colonies to prepare to swarm naturally. This is done by seeing that fresh food is not neglected at any time, and by the addition of brood from other good colonies, and by heat and crowding.

This method will give you a lot of just such cells as you wish to procure queens from. Watch developments, and as you find cells ready (you may let the cell-rearing colonies notify you by swarming), divide your foremost colonies as follows: Remove all the top from your hive and place thereon the cap or a box, and drum the bees up into the same. When about one-half have gone up (the queen will be almost sure to be with them) set your box aside with its bees, then remove the old hive to the new stand, putting the new one (just like it) in its place, and run in the bees. Number each hive alike. You can look for the queen as you run them in, or not, as you please; as stated above, she will nearly always be there; but when she is not, the bees will soon notify you by "running," when you go to the old hive (now removed), and you can quite easily pick her out and put her where she belongs.

How to Prevent After-Swarms.

Modify the above process in this way: Instead of carrying the old hive away, face it the other way, and set it *close* by the new hive on the old stand. Every day after, turn it one-fifth the way back facing the old direction, and on the sixth day carry it away to a new stand. What few bees were flying again from the old hive are now added to the new colony, so what the old colony loses the new one gains. The old hive is to have one of the aforesaid queen-cells on the day of the division, just at night. Divide only when the bees are flying to the fields freely, and not later than 3 o'clock p. m.

The above method of artificial increase can be made to work with box hives just as well as any, and from box to frame hives, by throwing a piece of carpeting over the old hive before, and over the new hive after dividing, to make the deception complete.

The plan given to prevent after-swarms works just as well with natural swarming as with artificial. It is not always a sure preventive, but there are hardly more exceptions than are required to prove a rule.

You see there is no removing frames to be done, consequently your work is straightforward and rapid. I know by experience that the plan works well, and I can see no good reason why it should not. The conditions are as near like those of natural swarming as well can be. With or without foundation, I will never put one frame of comb (with or without honey and brood) between empty ones, nor will I put one empty frame between full ones, unless the latter are chock-full of brood.

In the above hasty description of my favorite method of artificial increase (I do not use any now but the natural, which is forced upon me by the instinct of the bees and the flow of honey), I have no doubt omitted some points, and I know I have left out the minutiæ, expecting that most readers of the BEE JOURNAL have experience enough to supply the details.

Now that I am out of the supply trade for this season, next month I will tell you what I know about "Supply Dealing."

A Card.

I take this occasion to return thanks to the writers of the several congratulatory letters I have received in reference to my article of last month, and the cause it advocates. While poor health and many cares prevent me from answering each separately, I feel most forcibly their great help to our cause, and the grand growth of good sense among the many honey producers who read the AMERICAN BEE JOURNAL.

Dowagiac, Mich., April 10, 1880.

For the American Bee Journal.

Wintering of Bees.

L. H. PAMMEL.

We have just passed a trying winter for bees, on account of the great changes in temperature. It is a question of interest to many, how to winter bees successfully. We can hardly find two bee-keepers who agree on this subject; some prefer wintering them in a cellar; others in a bee-house; and still others on the summer stands.

My experience gives me unbounded faith in wintering on summer stands. The bees will remain clean, and will not besmear their combs and hives, which always results in loss of colonies. I had a case of that kind during the past winter. I wintered some in a house, and

some on the summer stands. Upon examination, I found the latter clean and healthy, while some of those wintered in the bee-house "dwindled" badly; they had plenty of honey, but the combs were besmeared, and a foul odor came from them. They had occasional flights in good weather, but it did no good. I lost 2 out of 27 colonies; these were wintered in a bee-house. Others in this locality, who wintered in cellars, have lost one-third, not for want of honey, but the high temperature in January caused the queens to lay early. In February cold weather set in again, and the bees could not take care of all the brood. The bad odor that came from the besmeared combs and dead brood caused them to dwindle away. Whereas, if the hives and combs had been clean they would have emitted a sweet odor. Some may say that this would have been different had the bees been carried out of doors, but their disturbance would have produced the same results.

La Crosse, Wis., April 19, 1880.

For the American Bee Journal.

The Latest from Cyprus.

D. A. JONES.

The natives here are usually poor, and, on account of the failure of the crops here last season, or from some other cause, they too closely robbed the bees of honey. The spring is very cold and late; thousands of colonies have starved. I believe three-fourths of the bees in Cyprus are dead, and I wonder that all are not, considering the lack of pasturage and care. If this weather continues much longer, very few will survive. The winter has been very severe both in Europe and Asia.

My carpenters have made 200 hives, and, by scouring every part of the island for bees, I hope to have 300 colonies by June.

Mr. Benton is busy transferring and bringing over the mountains 100 colonies I have 30 or 40 miles from here; and, as they have to be carried on the backs of mules and camels, up and down steep places, you can imagine the task—expensive as well as tedious.

To-morrow I leave for Palestine to examine the bees there, and bring 10 to 20 colonies of them back with me, if I find them to be good. I shall then select a variety of the different races of bees, and return to America with them in May. The bees here are kept in tubes about 30 inches long and 10 or 12 inches in diameter, varied according to the notion of the natives. The honey here is dark and very strong, except some gathered up in the mountains from plants resembling our sage, which is of a light color and better flavor.

The Cyprian bees have large wings and great power of endurance, but do not venture out in the spring in unfavorable weather; but they breed early, and when stores are insufficient, I have found much brood dead for the want of proper nourishment; this may be the result of the lateness of the season here. I am feeding largely to prevent starvation and keep up brood rearing.

By October I hope to have a thousand queens in my different apiaries, and I expect to exhibit several races of bees at our National Convention at Cincinnati next fall. I will write you again from Palestine, and should you receive some queens direct from Palestine from me, you need not be surprised.

Island of Cyprus, March 27, 1880.

From the Prairie Farmer.

Practical and Timely Work.

MRS. L. HARRISON.

All who desire to have profit, pleasure and a good time generally with their bees, should provide their fixtures before the busy season commences. Movable frame hives well made and painted are a desideratum. Every hive in the same apiary should be precisely alike, so that all parts are interchangeable. We know of nothing more aggravating than to find that a frame will not fit, when it contains honey, brood and bees, and we are in the act of removing it from one colony to another—poor time to stop and whittle. Hives should be made of good, well-seasoned lumber, by a competent workman (not thrown together by saw and hatchet men), and if kept well painted should last as long as a house. Some persons order hives from the manufactories when swarms are daily expected, and when they arrive the bees have to be transferred from salt barrels, tobacco buckets, etc., making a deal of work for their procrastination. We have known persons to go several miles to purchase a hive, leaving the bees clustered, and were surprised on their return to find that the bees had emigrated.

The best kind of box for the apiarist to use will depend in a great measure upon what his market demands. Pieces of white comb can be utilized to advantage in surplus boxes, and it encourages the bees to work in them sooner.

Peoria, Ill.

For the American Bee Journal.

Honey Plants of Northern Texas.

DR. WM. R. HOWARD,
Secretary Texas Bee-Keepers' Association.

In offering this list of native honey plants, it will be necessary to consider many plants cultivated by farmers and planters, which furnish more or less honey and pollen; but before entering upon our subject fully, we will offer, here, a few remarks upon pollen, the fertilization of plants, the production of honey, etc.

Pollen is in appearance a small yellow dust contained in the cells of the anthers. When viewed with the microscope it appears as grains of various forms, usually spheroidal or oval, sometimes triangular or polyhedral, but always of the same form and appearance in the same species. Externally they are curiously and often elegantly figured, with stripes, bands, dots, checks, etc. Each grain of pollen is a membranous cell or sack containing a fluid; its coat is double, the outer is more thick and firm, exhibiting one or more breaks, where the inner coat, which is very thin and expansible, is uncovered. In the fluid are suspended molecules of inconceivable minuteness, said to possess a tremulous motion. When the membrane is exposed to moisture it swells and bursts, discharging its contents.

In some of the flowers under consideration in this text, the pollen grains do not separate into a dust or powder; they all cohere into masses, called *pollinia*, accompanied by a viscid fluid.

In flowers dependent upon insects for their fertilization, there is a copious deposit of starch provided in the receptacle and disc. At the opening of the flower, this is changed to sugar to aid in the rapid development of those delicate organs which have no chlorophylle, wherewith to assimilate their own food. The excess of sugar flows over in the form of nectar; which is taken up by the hairy tongue of the honey bee, and conveyed by the alimentary tube, to the proventriculus, or crop, where honey is elaborated by an unknown chemical process, and regurgitated into the honey cell. Many are of the opinion that the honey as taken from the flower, undergoes no change before it is deposited by the bee in the cell, and offer as argument, that it has been proven that syrups, etc., undergo no perceptible change in being transferred by the bee to the honey cells; and thus reason from analogy that no change can take place within the laboratory of the honey bee. Be this as it may, I will not stop to argue here, as it can be of but little practical importance to the apiarist.

This wise economy of nectar is seen in fertilization; for attracted by it, the insect enters the flower, rudely brushes the pollen from the now open anthers, and inevitably lodges some of its thousand grains upon the stigma.

Experiment has proved that in all cases of formation of sugar from starch, oxygen is absorbed and carbonic acid evolved—a process which we might expect, since starch ($C^{12} H^{10} O^{10}$) contains proportionably more carbon than sugar ($C^{12} H^{12} O^{12}$) contains. It is probable that these two phenomena in vegetation are always co-existent.

In the following list, the seasons must be considered, as when the spring opens early, the weather propitious, both pollen and honey will be gathered earlier, more abundant, and of better quality; while in late, cold and wet springs, there will be but little of either collected and that of inferior quality, making our swarming later. In 1879, our fruit trees were in full bloom the first of March, while now (March 1st) we have none in bloom, not even the wild plum.

Red elm (*ulmus*) furnishes an abundance of pollen, and of good quality, and commences to bloom early in January, with a succession of blossoms for about a month. Slippery elm blooms the last of February, furnishing a rich pollen for about two weeks.

Wild plum (*prunus*) is next to red elm, commencing early in February, about the time elm ceases; with a succession of about fifteen days, furnishes both honey and pollen; the honey, though of inferior quality is eagerly sought by the bees, new honey giving, as it were, new life and vigor to the whole colony.

Peach and pear commence to blossom about the first of March, giving a succession of about twenty days, connecting with the apple, which gives a succession of from ten to twenty days, owing to the varieties; late winter apples bloom several days later than the earlier varieties. Fruit trees generally yield a fair quality of both honey and pollen, the former, being sometimes somewhat bitter.

Judas tree or red bud (*cercis*) blooms from the first of March to the last of the month, furnishing principally honey, which is of good quality; early swarms are frequently thrown off from the abundance of this harvest.

Black haw (*viburnum*). This shrub or small tree blooms about the twentieth

of March, with a succession of blossoms for a month and sometimes more. Yields honey and pollen.

Ratan vine (*smilax*) blooms from the tenth of April to the last of the month; furnishing an inexhaustible quantity, and a very fair quality of honey. In localities where this vine abounds, our spring yield is from it, and our main swarming is thrown off from the abundance of this crop.

Black locust and honey locust (*robinia*) flower in March, commencing about the middle of the month, and giving a succession of flowers for rather more than twenty days; furnishing both honey and pollen of excellent quality.

Pepper-wood, angelica tree (*aralia spinosa*, Linn.) furnishes both honey and pollen; honey of inferior quality on account of its pungency. Blooms April twentieth, with a succession of fifteen to twenty days. It is visited mostly for its pollen, which is abundant.

Poison ivy (*rhus toxicodendron*) furnishes an abundance of pollen and some honey. Blooms in April throughout the month.

Milk weed (*anantherix connivens*, Feay), commences flowering early in May, with a succession of flowers up to the middle of June and sometimes later. It furnishes an abundance of honey, of an inferior quality, being strong and pungent. It yields no pollen; its pollen cohering in masses, called *pollinia*, are suspended by a thread-like beak, in the sides of the connate mass of anthers, which are 5-angled, truncate, opening by five longitudinal fissures, which when the flower opens and comes to maturity, release the *pollinia*, throwing them out, and being furnished with wings, so to speak, and a heavy viscid beak will scarcely escape the cup-like flower without coming in contact with the stigma. These pollen masses are of great inconvenience to the bees, as in visiting the flower for the nectar, their feet come in contact with these *pollinia*, and by the viscid fluid they become firmly attached; and in going from flower to flower every pair that touches, sticks. As soon as the viscid liquid dries, it becomes brittle and soon falls off. They do not kill the bees as asserted by some, but I am satisfied that bees are considerably disabled for the time being. by these unnatural and clumsy appendages, and I am of the opinion that bees do as well, or perhaps better without this plant; but where it is to be found, bees will invariably visit it, notwithstanding the deleterious consequences; but had it not been for this plant in some localities the past season, many apiaries would have starved out; for it was an uncommonly dry year, and this was the only honey-plant we had.

Persimmon (*diospyros virginiana*) commences to bloom early in May, with a succession of flowers for rather more than a month, early varieties sometimes have half grown fruit, by the time the later varieties are in bloom. It affords an excellent quality of honey; in localities where there are a few acres of these trees, bees will become rich in stores in a very short time.

Black sumac (Rhus.), commences to bloom about the first of June, with a succession of flowers for one month. White sumac ten to fifteen days later, both furnishing honey and pollen of fair quality.

Cotton plant (*gossypium herbaceum*), commencing to bloom about the 15th of June, with a succession of flowers till frost; furnishing both pollen and honey. The blossom expands its petals of rich creamy-white, about 10 o'clock a. m. As soon as the flower is open enough, the bees immediately visit it, gathering both pollen and honey; prior to the opening of the new flower, early in the morning the bees seek the flowers of the day before, which have closed, and are of a pale red color, diving down out-side, at the base, and lapping up the delicious nectar, which is no longer necessary for the development of the floral organs. Bees gather more honey from this flower after it begins to close, say after 11 o'clock a.m., till 9 a.m. next day, than from the freshly opened flower; which furnishes mostly pollen. The honey from this plant is dark, like that of buckwheat, but of good flavor, very thick and granulating shortly after it is extracted.

Jamestown weed (*datura stramonium*), commonly called jimson, is visited late in the evening and very early in the morning, but the bee is unable to procure any honey except from the largest flowers. Several species of wild bees enter it, and some species gnaw into the flower at the base for the purpose of obtaining the abundant supply of nectar which this flower evolves.

Corn (*zea mays*, Linn.). The tassel of corn yields pollen early, and some honey later on. If the weather is favorable for the reproduction of plant-lice, we may always expect them to attack the tassel, making the top leaves "sticky" and discolored. I have seen bees "pile" on the tassel till you could scarcely have seen anything but the bees, gathering this "honey-dew." The honey thus obtained is dark, but of very fair flavor. A few remarks on the subject of honey-dew may not be out of place here

Honey-dew is very abundant on many plants, and is sought by the bees with great eagerness. Honey-dew for the most part furnishes rather an inferior honey, being dark and in some instances watery. There has been much cavil for years in regard to the origin of honey-dew. It has been known to entomologists and botanists since the time of Linnæus, that the so-called honey-dew was mostly the ejections from the bodies of certain insects belonging to genus *Aphis*, to which plant-lice belong. The word *Aphis* is from a Greek word, which signifies to exhaust. The principal characteristics which distinguish these from other insects are as follows:

Their bodies are short, oval and soft, and are furnished at the hinder extremity with two little tubes, or pores, from which exude almost constantly minute drops of a fluid as sweet as honey; their heads are small, their beaks long and tubular, their eyes are globular, but they have not eyelets, their antennæ are long and usually taper toward the extremity, and their legs are also long and very slender, and there are only two joints in their feet. Their upper are nearly twice as large as their lower wings, and much longer than the body—are gradually widened toward the extremity, and nearly triangular; they are almost vertical when at rest, and cover the body above like a sharp-ridged roof.

The winged plant-lice provide for a succession of their race by stocking the plants with eggs in the autumn. These are hatched in due time in the spring, and the young lice immediately begin to pump sap from the tender leaves and shoots, increase rapidly in size, and in a short time come to maturity. In this state, it is found that the brood without a single exception consists wholly of females which are wingless but are in a condition immediately to continue their kind. Their young, however, are not hatched from eggs, but are produced alive, and each female may be the mother of fifteen or twenty young lice in the course of a single day. The plant-lice of this second generation are also wingless females, which grow up and have their young in due time; and thus brood after brood is produced, even to the seventh or more, without the appearance or intervention throughout the whole season of a single male. This extraordinary kind of propagation ends in the autumn with the birth of a brood of males and females, which in due time accquire wings and pair; eggs are then laid by these females, and with the death of these winged individuals, which soon follows, the race becomes extinct for the season.

Plant-lice seem to love society, and often herd together in dense masses, each one remaining fixed to the plant by means of its long tubular beak; and they rarely change their places till they have exhausted the part first attacked. The attitudes and manners of these little creatures as described by Harris, whose words are used in the history and parthenogenesis above, are exceedingly amusing. "When disturbed, like restive horses, they begin to kick and sprawl in the most ludicrous manner. They may be seen at times, suspended by their beaks alone, and throwing up their legs as if in high frolic, but too much engaged in sucking to withdraw their beaks. As they take in great quantities of sap, they would soon become engorged if they did not get rid of the super-abundant fluid through the two little tubes or pores at the extremities of their bodies. When one of them gets running-over full, it seems to communicate its uneasy sensations, by a kind of animal magnetism to the whole flock, upon which they all with one accord, jerk upwards their bodies and eject a shower of honeyed fluid." The leaves and bark of plants much infested by these insects are often completely sprinkled over with drops of this sticky fluid, which, on drying, become dark-colored and greatly disfiguring the foliage. This appearance has been denominated "honey dew," but there is another production observable on plants after very dry weather, which has received the same name, and consists of extravasation or oozing of the sap from the leaves.

Horse-mint (*monarda*). This plant furnishes an excellent quality of honey, equal to white clover, finely flavored; it is the best honey-plant we have. It grows on all our prairies, stands the drought well, and comes in bloom just when our bees are in their working strength; it blooms rather after the middle of June, and gives a succession of flowers for one and a half months, or rather more than forty days. We all rejoice when our bees are safely through to the horse-mint. There are several species of this plant here which furnish more or less honey; the most valuable are *M. ciliata* and *M. punctata*. The first mentioned is nearly a month earlier in flowering, though both are valuable honey plants and deserve attention in the way of cultivation. I believe some of our apiarists are cultivating horse-mint for its honey qualities. It yields no pollen worth mentioning; the anthers project in a direct line with the upper

cleft of the flower, dusting its pollen grains over the body of the visiting bee. Too much cannot be said for horse-mint as a honey plant.

Pig-weed (*chenopodium album*, Linn.). This very common weed in fields and gardens, blooms about the first of August, and furnishes an excellent quality of pollen; unimportant as a honey plant.

Flax weed (*bigelovia virgata*, D C.), blooms about the first of August, but is not visited by bees till late in the season when other and better flowers are scarce; it blossoms till frost; the honey is bitter and pungent.

We have a plant of the genus *solidago*, or a closely allied genus of the *composites*, which I have not had time to determine satisfactorily, which blooms in August and furnishes an inexhaustible quantity of honey until frost. There are hundreds of acres of this plant in this country, common in old vacant fields, waste places, etc. With a favorable fall, bees will get very rich from it. The honey is so pungent and firey that no one can eat it; even the smallest portion of it will create a burning sensation in the mouth, throat and stomach. I have seen persons who had eaten not more than a few ounces, and it caused such distress, that vomiting, followed by violent purging, lasting several hours, was the sequel; persons who could eat pure honey with impunity, and were very fond of it, too. Such is the character of this honey that most persons have supposed it to come from pepper wood (*A. spinosa*), the taste of which is very much like that of prickly ash (*xanthoxylum*). The honey is of fine appearance, being transparent as water, but of medium consistency. Slow to granulate. It will remain liquid six months, and I do not know how much longer. I have never tried boiling it to remove the pungency. I contemplate making some experiments the coming season on this honey. Bees will winter on it if they have plenty of it. My bees have had no other honey, and have wintered in fine condition. I would suggest that when this harvest comes in, to extract all the honey on hand, and let the bees have the benefit of this honey for winter use, as a safe plan.

I shall make more extended observations on native honey plants in northern Texas, the coming season, and hope, also, to be able to write a paper on cultivated honey plants as soon as I have satisfied myself as to their value in this climate.

It will be remarked from the foregoing incomplete descriptive list of honey plants, that our natural resources for the production of honey, are equal to any in the south or west. Our climate is such that our bees winter well on the summer stands, plenty of stores to prevent starvation being necessary only. Our country is subject to severe droughts once in every three or four years, which is very trying on our apiarists, causing heavy losses on account of starvation.

There are other plants deserving attention in a paper like this, but as I have not had an opportunity to examine them, and visit their localities and ascertain their value, I will pass them by. I have been more lengthy than I intended, but I desired to offer a few remarks on botany and entomology, to explain certain extraordinary phenomena in the production of honey. If this shall be the means of rendering information to those interested in the subject, then its object shall be accomplished.

White Rock, Tex., March 3, 1880.

Translated for the American Bee Journal.

Value of the Different Races of Bees.

The following is the report of the debate on this subject at the Austro-German Congress, at Prague, last September, as reported in the *Bienen-Zeitung:*

Dr. Pollmann remarked that the history of bee-keeping for the past 30 years, had demonstrated that in obtaining the best races of bees we had to contend with many difficulties. Dr. Dzierzon, who introduced the Italian bee into Germany, in 1853, described it as "gentle, quiet and easy of management." Baron Von Berlepsch said he did not believe in the much-talked-of virtues of the Italian bees; he was decidedly of the opposite opinion. In 1867, the Baron Von Rothschutz, Sen., recommended the Krainer bee. In 1872, Count of Kolowrat, and Herr Cori, introduced Cyprian bees; and the value of this race is now a much disputed point. Some admire their beauty, but others pronouce them as cross as maddened beasts. The truth, evidently, lies between the two extremes. All races are good, if treated as near to the requirements of their nature as possible.

Dr. Dzierzon said that both his experience and observation proved that the Italian bees were gentle and not fond of stinging. They are very courageous in the defense of their stores, and diligent in the gathering of honey.

This shows that we were perfectly right in preferring this golden bee to the lazy black bees, which Virgil, in his day, so much praised. These characteristics present the principal differences between Italian and German bees. The Italian race is by far the best, according to my judgment.

Herr Klimke: As an apiarist and importer of bees into Silesia, since 1867, I find the Krainer bee the best race under all circumstances. It will cross well with other races, but best with the Italian. It is the most industrious as a honey-gatherer—is gentle, and works with more diligence.

Herr Hilbert said that perhaps no race of bees could be said to be the best under all circumstances—so much depends upon treatment, climate, country and the taste of the apiarist. Each race have some good traits of character, and will gather some honey. If we look for utility instead of fancy color, the German bee is beautiful. I do not desire to condemn the yellow bees; on the contrary I admire them greatly; but I think it useless to go to the expense and trouble of obtaining them, if economical profit is what we desire. It is inexpedient to spend large amounts of money in acquiring Italian, Cyprian or other fancy queens (which are often of questionable purity), as many have a passion for doing in our country. This may be called an acute disease of apiarists, which may become as disastrous to improvement as is the disease of foul-brood! Many a poor fellow who throws his money away for such, would act more wisely to spend it for personal or family comforts. For this reason I never offer to sell queens, and I have serious doubts of a man who will give 20 or 30 marks for a Cyprian queen, unless he is anxious to get rid of his money. If a man is able to do so, comfortably, he might procure a queen to improve his stock; but the improvement of the race of bees is a difficult matter, and is usually only successfully accomplished by a breeder and dealer of queens and bees. But the apiarist who wants to keep bees for the money to be obtained from the sale of his honey, should depend upon the revenue he may obtain from a careful and judicious management, rather than upon obtaining different races of bees. In improving the race, queens produced by the best colonies should be selected to mate with choice drones of another race. Cyprian bees use their sting more readily than the Italians. Any one not sensitive on this point will be much pleased with them, for with this exception they have all the virtues of the Italian race. They are also hardier and do not dwindle away in the spring, as Italians do. They increase and swarm more readily than the latter, and are so warlike that they will with ease conquer any colony of Italians. For this reason they cannot be united with any other race. The Egyptian race of bees are quite useless. In attempting to improve the races of bees, we should have an eye to utility, by periodically adding new blood or crossing with a hardier race like the Cyprians.

Herr Budiegizki, of Bohemia: My experience as a stock raiser, proves that any race of animals will degenerate, if obliged to remain excluded from others. Importing the different races of bees has been highly beneficial. This was the happy idea of Dr. Dzierzon, who made it possible for the intelligent apiarist to thus "cross" their bees and infuse new blood into them. This has been a great benefit to the bee culturist.

From the Bee-Keepers' Magazine.

Do we want a Co-operative Journal?

G. M. DOOLITTLE.

I was much surprised in reading the report of the N. E. B. K. Association, in the March number of the *Magazine*, to see the resolutions tending toward the establishment of a new bee paper. No bee journal could be *successfully* conducted on the plan as given in these resolutions. One of them says, "The columns of this co-operative bee journal are to be always open to contributors." This would give the editor of such a journal *no control whatever*, and he would be obliged to admit all *quarrels* into said journal, and all language, however indecent or abusive it might be, or else the journal must go down at once. Now an editor should always have the right to say what shall go into his paper, and what shall not; for without this power, his hands are tied and the publication is a failure.

Next we find that this journal must be "managed for the sole interest of the honey producer at all times, and disinterested *every way* in the *manufacture* or *sale* of *supplies* for the apiary." This would please me much and would be just what I would like, but, the question is—can a bee journal conducted on these principles be *self supporting?* I answer No. Why not? For the simple reason that the *price* would have to be *so high*, to make it pay, that but few would take it. Perhaps 300 would be willing to pay $3 or $4 each for such a journal, but the majority would say,

I can get the *Magazine* or *Gleanings* for a dollar and I would rather have it at that, even if it does puff the wares of the editors, than to pay four dollars for a co-operative journal. If this is not so what has caused the *Bee-Keepers' Magazine* and the AMERICAN BEE JOURNAL to lower their prices? The bee journal that gives the largest amount of information for the least money is the one that the majority will patronize, whether the editor has wares to sell or not. This is a fact that will meet us, turn which ever way we will.

It would seem by the action of the Convention, that the members thereof are not willing to extend to Mr. Newman the same privilege they do to their president, for, on page 51, I read: "I am sorry that there is an impression that a dealer in supplies allows his judgment to be warped by his position." As proof that they considered Mr. Root's judgment was not thus warped, they re-elected him president.

Again, they award a prize to Mr. Van Deusen for the best essay on comb foundation, when he is as much interested in the making and monopolizing of comb foundation as any man in America. Why not accord to the editor of the AMERICAN BEE JOURNAL the same privilege? There is something said somewhere about consistency being a jewel.

As to honey markets I find that the bee journals vary somewhat, but I fail to see where the AMERICAN BEE JOURNAL quotes honey lower in the Chicago markets "to further its own interests." In the March number, the AMERICAN BEE JOURNAL quotes honey in Chicago, from 16 to 18 cents, while the *Magazine* says, it is worth in Chicago 14 to 16 cents. Mr. Miller says in February *Gleanings* that honey is selling there at 22 cents, but I know some friends who sold their honey there, and did not realize the lowest quotation given above.

"It is reported by some that Mr. Newman submits to Doolittle the articles for AMERICAN BEE JOURNAL and that which he does not approve cannot be inserted." I wish to say that Doolittle has nothing whatever to do with the AMERICAN BEE JOURNAL, any more than he has with *Gleanings* or the *Magazine*. I simply write for it, as I do for them, and the editors clip my articles or throw them into the waste basket, as they see fit. It is a little tough, I know, to have an article one has spent time to prepare, consigned to the waste basket, but such things have occurred with me, and I claim the editor has a perfect right to do so.

In conclusion I would say, with Mr. Clark, that there is no necessity for starting a new journal, as we already have six, each devoted to bee-keeping. If we wish a co-operative journal, let us see how much we wish such a journal, and if we wish such a one $6,000 worth, no doubt, the editors of either journal will give us such a one, and drop the manufacture and sale of supplies. I want such a journal $6 worth, and if 1,000 of us are in the "same boat," we can have it, I assure you; but until we are willing to pay for such, let us not find fault with the journals we have.

Borodino, N. Y., March, 1880.

For the American Bee Journal.

Buying Untested Queens.

E. B. SOUTHWICK.

I notice friend Doolittle (whose writings I generally swallow without doubting) is very careful in getting his choice queen and colony ready early to swarm. Suppose she does come out and two-thirds of the bees with her are leaving for parts beyond reach, is it not a risk? I will tell my plan, which I am self conceited enough to think is much better: I get them ready to swarm as he does, but before they swarm I take two frames of brood with the bees that are on them, and the queen also, and place these in another hive and add brood from other hives and empty combs enough to make a good colony. Then I do not lose my choice queen and my queenless colony commences to rear queen-cells and will rear more, and better ones, than they would if they had swarmed, for there would be more bees to work at it and keep up an even temperature in the hive, which I think very essential.

I notice that nearly all who rear queens to sell recommend the tested queen to the purchaser and lament the great damage the cheap queens are doing to the business. I am not rearing queens to sell. I rear some for my own use, and if a friend or acquaintance wants one of me, I show him the queen that I will sell; show him her progeny and tell him her age, if I know it, and put my price which will vary from one to five dollars, or more. But were I buying queens for my own use, I would invariably buy the untested queen, and the sooner she commenced laying the better. My reasons are that the queen breeder, whether honest or dishonest, will rear queens from his best colonies and get the best he can, for it is to his interest to establish a good reputation.

When his queens begin to lay he knows but little about them; they may be pure or impure, but the careful breeder has little fears of that, for he has Italianized his own and his neighbor's bees. They may be good layers or they may be poor, he does not know which. Now if he sells them at this stage he is just as apt to sell the best as the poorest, and the purchaser for the one dollar is just as apt to get the best as the poorest. But suppose he rears them to the tested point; then he need be no longer ignorant of their quality. He finds some of them very energetic, active and great layers and will fill the hive with bees in a very short time; others will not lay enough to keep the old colony good. Some of them are worth five dollars, others not any thing, but all are purely mated, all are tested.

Need I say who will get these five dollar queens for two dollars? The poor ones fill the bill, and the best ones find their way into their own hives, or some friend of theirs, like Doolittle, through which they expect to establish a name. I need not mention the great chance they have to weed out their own apiary of the old and poor queens.

Mendon, Mich., April 3, 1880.

For the American Bee Journal.

Cyprian Bees, a Superior Race.

D. A. JONES.

No doubt the thousands of readers of the AMERICAN BEE JOURNAL will be glad to hear that the Cyprian bees are superior to any other in the hands of some of the most experienced European bee-keepers. Being determined to ascertain whether or not the Cyprian bees were superior to all others, I procured the assistance of Mr. Frank Benton who has experience in queen rearing, and is able to speak the different languages required in the enterprise, and in January we started for the Island of Cyprus. But I was determined before importing, to go through Europe, visiting all those persons who have had experience with the Cyprians, and if they did not convince me of their superiority, to return home without going further than Italy, and importing Italians. Having visited the principal apiarists who had Cyprian bees, and learning all that is known of them, in Europe, I am greatly pleased with the information I received from all quarters and especially from those who never sell colonies, queens or bees; such persons as Count Kolowrat, Krakovsky, Edward Cori, Director Chancellory, &c. The Count imported Cyprian queens for his own apiary, when one would cost $200. His apiary is one of the finest in Europe. He thinks the Cyprians, regardless of cost, much superior to all others. When I visited him, he gave me a very warm reception, which I shall ever remember with pleasure. He stated that when all his other bees wintered poorly, the Cyprians wintered well, and when his others would dwindle down to a mere handful, the Cyprians would be strong, and their hives overflowing with bees before the others would be strong, thus enabling them to secure large yields of early honey.

They breed early and late, going into winter quarters very strong, and with young bees. Some of the principal breeders in Italy intend to get the Cyprians to improve their stock. If they decide that the Cyprians are superior to the Italians, will they not be very valuable to us, in America?

Being satisfied of their superiority I have purchased a large stock of lumber and nails for hive-making, and also a lot of superior loaf sugar for queen cages, wire cloth, carpenter's tools, and every thing required in an apiary, and have shipped it to Cyprus. Being a British subject I have secured through the British government the assistance of its officers there, and from a gentleman of Austria, the assistance of the Austrian consul.

We shall doubtless be able to start a large apiary, in spite of the superstition of the natives on the Island, who stop up all their hive entrances and fumigate the hives and yard to drive away the influence of the witchcraft that might be practiced on them, after one of us have been around. As soon as possible I shall purchase a large number and start a bee-farm and queen-rearing establishment, and as soon as I can, I will return to Canada, bringing with me all the queens I can secure; Mr. Benton will remain in Cyprus and take charge of the bees, rear queens, and ship them to me, or the parties in Europe who have ordered them, after the supply is sufficient to meet the demand. Those who have been importing heretofore, have been delighted to learn that Mr. Benton will remain on the Island, and asked us to import for them. We have with us, the Count's shipping cages in which to send him queens. We have also received orders from Messrs. Cori, Gravenhorst, Shroder, and others, who will have them, regardless of cost. I will write as often as possible and give readers of the BEE JOURNAL the Cyprian news, and keep them posted on all points of importance.

Corfu, Ionian Islands, March, 1880.

For the American Bee Journal.

Where Honey Comes From—No. 3.

WM. TRELEASE.

If a flower be taken from a single hyacinth—a double flower would not do so well, because the artificial doubling has transformed some or all of the essential organs into petals—and the floral envelopes (a) removed from one side as is shown in Fig. 6, the pistil (o) will be seen occupying the center of the flower, and around this the stamens (b). A glance at the pistil shows it to be made up of an egg-shaped ovary, creased longitudinally with 6 equi-distant lines, and surmounted by 3 styles. Three of the grooves mentioned occupy the middle of the walls of 3 cells into which the ovary is partly divided by partitions (Fig. 8); and the other three, which are deeper, correspond to these partitions. At or near the top of the ovary, on each

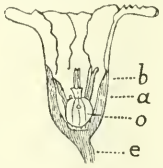


Fig. 6.—Flower of the hyacinth, with the nearer half of the perianth removed—natural size.

In all of the figures a indicates the perianth ; b, the stamens ; d, the gland cavity ; e, the flower stalk ; f, the ovules ; o, the ovary ; s, the style ; 1, the epidermis of the gland cavity ; 2, that of the outside of the ovary.

of the last mentioned grooves will be found a glistening drop of fluid, sweet to the taste. Two of these drops are indicated in Fig. 6. The presence of these drops has been observed from time to time for many years, and even Linnæus saw them and knew that they were nectar. But no study of the glands which secrete this fluid appears to have been made till 1854, when they were briefly described by a Frenchman, M. Brongniart. Notwithstanding this description, even in the last year the glandular tissue has been wrongly described as disseminated in the ovary, by one of the highest authorities on the relations between flowers and insects.

With a sharp razor the ovary may be cut from top to bottom in such a way that the section shall pass through the middle of a cell and the middle of the opposite partition. Such a section is shown, enlarged 11 diameters, in Fig. 7. The cell of the ovary is partly filled by the ovules or young seeds (f), and a narrow pocket (d) is found extending down a short distance from the point where the drop of nectar was seen, into the tissue of the septum or partition. This is one of the nectar glands, and is a so-called septal gland of the ovary. A thin section across the ovary near its top, shows all three of the glands as very small crevices in the septal tissue. Such a section, at the point xy of Fig. 7, is shown in Fig. 8, where it is enlarged 17 diameters. The gland tissue, which differs very little from that surrounding it, is indicated by the figure 1.

Septal glands similar to, though much larger than those of the hyacinth, are found in the ovaries of many lily-like flowers, such as the *Canna*, or Indian shot, the *Amaryllis*, the squill, or wild hyacinth, the onion, and many others which need not be mentioned. In the

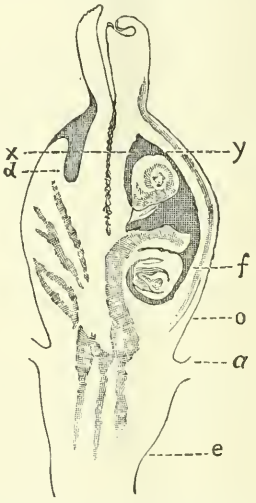


Fig. 7.—Vertical section through a septum of the ovary—magnified eleven diameters.

hyacinth, the gland is little more than a slight deepening of the furrow between the two halves of a septum, and is wider at its mouth than at any other point. In other cases, the gland cavity is of equal width throughout; in others it preserves the nature of a simple pocket, but is much enlarged below, and passes its secretion to the surface through a contracted portion often of considerable length, and then forming a true duct; and in still others the pouch is relatively very large, and its walls are folded into longitudinal and transverse ridges, thus largely increasing the secreting surface. In these latter instances, the gland is quite comparable to one of the simpler racemose glands of animals. Every septal gland may be considered as a cavity such as might be formed in a clay model of the ovary by

pressure from the outside with a hard object, and if we imagine this model invested with a piece of thin sheet rubber, representing its epidermis, and adhering to the clay at every point, it will be seen that this layer must necessarily line every part of the cavity formed, however complex it may be.

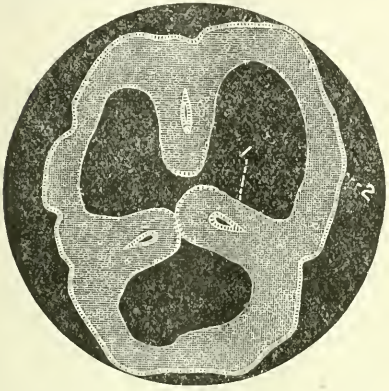


Fig. 8.—Cross-section of the ovary at xy—magnified seventeen diameters.

From this study it appears that in some cases supposed diffused glands may be merely concealed glands of definite form which are in communication with the surface by definite channels, and the drops of fluid accumulated at the openings of these may serve as guides to the glands within.

For the American Bee Journal.

Fertilization in Confinement.

A. J. HINTZ.

This seems to be the most important question to the mass of bee-keepers at the present time; and it may well be, for to successfully breed any thing in its purity, for the best qualities, and to perfection, we must have perfect control over their mating.

When attending the Convention at Chicago, I was very much interested in the experiments of Prof. Hasbrouck, and the discussion that followed the reading of his paper, showing the success of the Professor and others.

In the summer of 1878 I studied all of the plans and methods on fertilization in confinement, that I could obtain, but none satisfied me, so I invented a plan of my own which I intended to practice during the summer of 1879, but the winter of 1878-9 cleaned out every bee I had (11 colonies), so that stopped me from experimenting, until I obtained more, during the last week in June. I then bought one black colony, and early in the fall I found two small colonies in the woods, which I transferred to hives, so I have one strong and two weak colonies.

Now I will tell you the plans that I am going to try to get my queens purely fertilized. I have been thinking of a wire-screen house about 10x12, 8 feet high, but it would be too costly for experimenting, so I shall get up something cheaper, that will answer the purpose. Take 4 sticks, pointed at one end, 6 feet or more long, drive them into the ground in a square about 4 feet apart one way, 6 feet the other, have them all of even height at the top; these are the posts; get 4 pieces 4 feet, 4 pieces 6 feet long, 1x2 inches thick; these are the rails or frame pieces; nail one all around at the top of the posts and one all around a few inches from the bottom, then the frame is complete. Now get 20 or 25 yards of sheeting, cut it up into lengths to reach from the bottom of one side, over the top to the bottom on the other side; then cut off pieces for one and one half ends; get them sewed together as they ought go on to the frame. Stitch it over the frame and tack it to the bottom rail on each side, do the same with the ends, only leave enough loose at the hinder end to get in and out; on one-half of the front put one width of screen cloth all the way up and down, then your fertilizing cage is complete. In tacking on the sheeting, put a strip of thick cloth or thin wood over it, to nail through, then the sheeting can afterwards be taken off without tearing holes through it.

When the queen is a few days old, in the evening, take the nucleus or hive where queen and drones are in, place it in the back end of the fertilizing house, the hive facing the front. Feed them while they remain in there. About noon the next day, if pleasent, open the hive, and the queen if ready for her wedding trip will come out and the drones on the look out will soon follow, and the desired object may be accomplished. If not successful the first day try the next, and so on until it is accomplished. I should not take the hive out until I found the queen laying, if not over six days.

Another plan is this, which any one can easily try, if they have a well lighted empty room at their command. Darken all the windows, but on one side; put the queen with selected drones together in a cage, leave the cage in the hive where they belong, until mid-day, then get the cage into the room, take it to the corner furthest away from the light,

open it to let out the inmates, when the queen flies out the drones will accompany her on the wing, perhaps to your satisfaction. When one is fertilized then put her back in the cage. Marking the cage to know where she belongs. Then open the next cage and proceed as before until you have them all fertilized and caged; then open the windows and let the surviving drones fly home, and take the queens home too.

This is my theory, which I did not care to make public until tried and proved successful, but as I may not be able during the coming summer to give it a satisfactory trial, and as others have more bees and time to devote to experiments than I, and not having seen any mention made of these plans, I give them to the public for what they are worth. If any one has tried similar plans I should like to hear of it through the BEE JOURNAL, giving full particulars, whether successful or not. Perhaps by a little modification of some plan, if not already perfect, we may be able to devise a way that will prove as much of a success in fertilization as the use of comb foundation has been proven to be in the hive, or the introduction of superior queens to colonies.

An interesting question is: Does the season of the year, in rearing a queen, have any effect upon the disposition of her progeny? In other words, will the progeny of a queen bred in the early part of the summer, when honey is coming in plentifully, have a better disposition than a queen that is bred in the fall, when honey is scarce? If any one has made any observation in that line, I should like to have an answer through the JOURNAL.

Lamont, Ill.

Translated from the Bienen Zeitung.

The value of different Races of Bees.

DR. DZIERZON.

Ever since we have become acquainted with and introduced various foreign races of bees, the color of some of which differs in a striking manner from that of our native bees, apiculture has become considerably more interesting and profitable. Many questions on which formerly opinions were very much divided, are now capable of being solved in a simple way....

Of the most gentle bees may be named the Carniolan and Italian bees. The former, in addition to their gentle nature, show a great disposition to swarm. The latter are distinguished by their extraordinary industry, their capability of defending themselves against attacks by robbers, and the large quantities of honey they collect, in which they certainly surpass the capabilities of our native bees.

The advantage of the introduction of foreign races of bees, however, is not only to be found in the good qualities and superiority of the latter, but also in the difference in color. Generally speaking we may grant the correctness of the maxim that success depends, not on the color of the dress but on the capacity for work, still a decided difference in color is also no mean practical advantage.

A Hungarian bee-keeper, in a letter which I received from him, states that in his opinion the Italian bees are valuable chiefly on account of the remarkably bright color of their queens, which greatly facilitates their being easily discovered among the bees.

The following example will illustrate the advantage of being able to distinguish queens more or less pure from one another by their color. Some of the colonies in my apiary at Carlsmarkt had become somewhat reduced in population during the winter, and in order to strengthen them I deprived several populous colonies in my distant Bankwitz apiary of a quantity of bees which I brushed into a box. When I arrived home I discovered to my regret that I had brushed off a queen with the bees. The weather being cold the operation had to be performed quickly, and as I had removed no combs from the brood-chamber where the queen generally resides, I did not suspect the presence of the queen upon the combs which I took out of the hives. What was to be done now? Having taken bees from four or five hives, which colony did the queen belong to? I was not long in doubt. Of the colonies which I had deprived of bees, two were pure Italians, one colony was tolerably pure, and one only contained rather dark bees. I guessed at once that the queen, which was also of a rather darkish complexion, belonged to this colony and my supposition proved correct.

When I returned to my distant apiary on the following day I found the colony in question without a queen, and on putting her back into the hive she was joyfully received, and thus the mistake was made good, which might easily have caused me the loss of a good colony. The queen of a swarm might fall to the ground, a queen returning from her wedding trip might by mistake enter the wrong hive and still be liberated unhurt from the bees surrounding her, or she might slip down the comb un-

perceived during the temporary removal from the hive and be discovered afterwards. I need not therefore enter into further particulars to show how important it is to know with certainty which hive she belongs to.

For the American Bee Journal.

Feeding Honey to Store in Boxes, Etc.

GEORGE THOMPSON.

In the February number, page 77, there is an excellent article by G. M. Doolittle on "Feeding Extracted Honey to be stored in Boxes." I have been experimenting in this direction for the last two or three years, and I must also say that I have to feed a great amount of honey to get a little stored in boxes.

My plan, however, has been a little different from his. I feed below instead of above, my hives having all tight bottoms. I pour in about dusk 2 or 3 pounds, and it is usually all carried up by morning, so this does not prevent them from working when there is anything to gather. I had all my unfinished sections nicely filled and capped in this way last fall.

I have, however, come to the conclusion that it will not pay to put on empty boxes and feed to get them filled and capped over.

I would ask G. M. D. to lend me his ear; it may be that we can do something in this direction yet. You know we live in a "progressive age." By a careful and judicious selection of our best box-workers, can we not produce a strain of bees that will carry everything in the form of liquid sweets up into the boxes?—regular elevators, you know!

What a bee "the coming bee" is to be. Little or no sting, remarkably gentle, the swarming propensity worked out, rapid multipliers, the tongue greatly lengthened, the working qualities greatly increased, the elevating instinct marvelously improved, and, *presto*, "*Apis Americana*."

I was sorry that Mr. Heddon in the March JOURNAL discouraged the importation of the Cyprian bee. The latter part of his article spoiled all the rest. I wonder why he said: "I will pay no high price for any new bee," and at the same time acquiesce in what Mr. Langstroth wrote: "Crosses, I think, will prove the point in the coming bee." I would ask him if the Italian bee in America has been brought to its present state of perfection by "crosses" or by careful selection? He says: "I prefer to go slow." That is the way of some folks till they are driven out of the market; or, after two or three years, into the traces by their more enterprising and lucky neighbors.

My bees came out of the cellar in splendid condition, but I am a little fearful they will be considerably reduced before warm, settled weather comes, for breeding ceased very early last fall. They gathered nothing after the basswood harvest.

Geneva, Kane County, Ill.

For the American Bee Journal.

To what extent can Bees be Improved?

G. M. DOOLITTLE.

In the March number I said something in regard to the best way of rearing queens, as I considered it, but said very little about the selection of stock from which to rear said queens. There probably is not an apiary in the United States, containing 20 colonies, but what the owner thereof is compelled to acknowledge that certain colonies do better than others nearly every year in producing honey, as we often hear it remarked, if the whole apiary could have done as well as such a colony, I should have had a big yield. Some contend that the hive and strength of colony has all to do with it, but I am inclined to think that the race of bees has the greater influence over these things, and that certain traits of character exist in certain colonies of bees that do not in others. If this is so, there is a chance for improvement in our bees, and I am inclined to think that it will be more to our credit in the future to strive to improve on the bees which we have, rather than to keep importing stock. But how can we accomplish this improvement? I know of but one way at present for the majority of us to accomplish this, and that is through the queen. A few cases have been reported, where the drones have been brought into subjection, so that an improvement could be made by a selection of drones, but a majority of those who have tried fertilization in confinement have only made a failure of it. Thus, we have only the queen to aid us in the improvement as a certainty. Well, such being the case, how shall we proceed? I do not know that I can give my views better than to relate some of my experience.

About seven years ago I began to turn my attention to this matter, and adopted the following plan: At the close of the honey season I struck an average of the number of pounds of surplus honey produced by the whole apiary, and then all colonies which did not come up to

the average were marked, as well as those which produced the very largest amount. (This, you will see, requires a record kept of each hive by some means.) Those that were marked as not coming up to the average were united, either in the fall or spring, with others that had produced an average amount or above, if such uniting was deemed advisable through colonies light in bees or scarcity of honey. Of course, we always destroyed the poorest queen and retained the other. If all were not disposed of in this way, we superseded the inferior queens by those reared from the colonies marked as producing the very largest amount. All queens were reared, as far as possible, from those producing the largest yields of honey, and so, by following this plan and rearing the most of our queens, as given in the March AMERICAN BEE JOURNAL, our bees have been improving as regards honey-gathering qualities instead of retrograding.

As far as possible we have selected our best blooded Italians to breed from, always, however, keeping an eye to business rather than to color. But during these seven years we have found other points worth looking after as well as honey producing, such as good disposition, keeping brood in compact shape, remaining quiet during the winter, etc.

Our attention is just now turned in another direction. The readers of the JOURNAL will remember that it was claimed the honey which drew the gold medal at the National Convention in 1877, was gathered by black bees; one of the reasons given for so claiming being that black bees made whiter looking honey, or whiter looking comb than the Italians. We discovered in 1876 that we had one colony of Italians which so sealed their honey that it was superior in appearance to that of the black bees. In 1877 this colony produced upwards of 300 lbs. of box honey, and the most of the honey in the crate drawing the medal was selected from these 300 lbs. Here was a chance to improve our bees in another direction, as we all know that the appearance of comb honey has a great deal to do with its sale, and as I had but one colony that produced more box honey than this, I thought it something worth trying for. The queen, being quite old, was superseded in 1878, but from the cells left in the old hive at swarming we reared a few queens, only one of which came up to our ideas of excellence in every way. From her we reared some very fine queens last season, and propose, if possible, to stock our yard mostly with this strain of bees the coming season. These bees have also, as a rule, wintered well. They are not as light colored as some, but as most of the young queens are nearly duplicates of the mother, we are satisfied on that score.

Thus every apiarist, if he will keep his eyes open, will find desirable points in certain colonies of his bees which he can improve upon, and by adopting the plan as given above, his apiary can be steadily advancing in worth to its owner. The only drawback that there is to certain improvement in any direction with bees, is our inability to control the drones. Then let us try with more zeal than ever, the coming season, to make fertilization in confinement a success.

Borodino, N. Y., April, 1880.

For the American Bee Journal.

Queen Rearing.

H. ALLEY.

For 20 years I have been rearing queens; 18 of these have been devoted to the Italians. Almost every conceivable experiment for rearing queens has been tested by me. For several years I have used only the following method: My combs for nuclei are 4½ inches square, as they are the most convenient, and in my queen-rearing hives I use 24 of them at one time. There are 3 sections to these hives, each containing 8 combs. These combs are well filled with honey and pollen. Now the strongest colony of bees is selected and after being made to fill themselves with honey, by drumming on the hive, they are all brushed from the combs into a box that has wire top and bottom, so as to give plenty of air. The queen is found and removed and the bees left in the queenless state 10 or 12 hours, this fits them for queen-rearing. Now I prepare the queen hive by filling each of the 3 sections full of combs, leaving out 2 or 3 of the frames from which one-half the comb is cut, to make room to put strips of comb containing eggs just hatching, for the bees to make the queen-cells on. The comb the eggs are in is cut in strips about 3 cells deep, and is attached to the combs in the frames with melted beeswax and rosin simmered together and used, of course, while warm. The strips of comb are shaved down, so that when looked at sidewise, they form the letter V. Queen-cells will be made on both sides of it. Having thus prepared the queen-rearing hive we place it on the same stand that the bees were taken from, and if there are no objectionable drones

the cover is removed (without smoking the bees) and the bees will enter the new hives readily, and in the course of an hour, queen-cells ¼ inch long may be found. The strongest colony should not be permitted to rear over 25 queens. The more they rear the poorer will be the queens. In 12 days from the time the queen-cells are started the young queens will commence to hatch; that will make 16 days from the time the eggs were deposited. No 8 or 10 day queens can be raised by this plan, as is the case when the queen is removed from a full colony and the bees allowed to select the eggs themselves. Under such circumstances the bees will select anything, from the hatching egg to a larvæ 3 days old, to make a queen of. By my plan the cells are all made in a bunch, and cannot be separated with a knife. I use no lamp nursery or other artificial apparatus for hatching queens—hatching boxes, with glass in 2 sides are used. The combs having the cells are placed in them and bees enough to keep up the natural heat are put in with them. A young queen can be seen readily when she emerges from the cell, as they are nearly white when first hatched out. The frame is removed and a sponge used for the queen to run on. She is then placed in a cage or nucleus that has been queenless 3 or 4 days. I never handle queens just hatched, by their wings. In the course of 24 hours all the cells will be hatched out.

What will you do with the bees that have just made the cells? I do this; more cells are wanted, but these bees will not do to rear them, they can be used for this purpose, but the queens would hardly be worth $1.00 each. Now I go through the same process again that I did in the first place. Another strong colony is selected and all the bees brushed off the combs into the wire box. The combs are replaced in the hive just as they came out. The hive is then placed on the spot where the queens were reared, the bees in the queen-rearing hive are then shaken from the combs in front of the new hive, and a queen, or rather the queen taken from the full hive given them. By this method all the large colonies are kept full of brood as they are never queenless. As soon as the cells are sealed they are removed to strong nuclei and from there they are removed to the hatching boxes when the cells are ready to hatch. The reader will notice that while the bees are rearing queens they have no brood to care for, except that given them to rear queens from. All their forces are directed to queen-rearing. While forage is abundant no feeding need be done. When the fields furnish none, the bees must be fed until the cells are sealed. When the combs are full of syrup and sealed or ready to be sealed, they are given to the bees in nuclei, or the bees in fertilizing boxes. I do not keep my breeding queens in full colonies. I could not run my queen-rearing business easily and conveniently if I was obliged to open a full hive every time I wanted a few eggs to start queens. They are kept in small hives which have the 4½ inch frame: five of these frames are used. The middle one is drawn out twice a week, or every day if needed, dated and placed in some other hive for the eggs to hatch. I know just when to look for eggs that are ready for my queenless bees, when I want to rear queens. Larvæ over 12 hours old should never be given bees to rear queens from; queens reared in such manner, will hatch in 8 to 10 days and be rather short lived and this is the case where too many are reared in one hive; even though they are 16 days from the egg, they do not live so long as queens that are reared in hives where only a small number are reared at one time.

The price or color of the queens does not make the quality. My opinion is that a pint of bees will rear as good queens as are reared under natural swarming, provided, they rear but one at a time, but the difficulty is to fix the brood so that they will rear or make only one cell. I have experimented very much on this one thing, sometimes with success and sometimes with failure. I can place one egg in a hive, but the bees do not like it at all. Sometimes they will make a fine cell and then again none. If I could meet with good success every time I would rear queens in no other way.

The year 1879 will long be remembered by me. I never received so many orders for queens, and never had such hard work to get them fertilized. From June 1 to 20 there was not a favorable day for queens to fly. From that time to July 4, the weather was fine, but from then till October it was very unfavorable, all the time. To perfect 1,000 queens I had to rear 2,000. My expenses were heavy, and on the final wind-up, I found that I was many dollars out of pocket. I commenced last fall to get ready to make a success, the present season, and am bound to do it.

I have written the above for the benefit of those who have sent to me for my method of rearing queens.

Although I have not advertised any since September last, nearly 1,000 bee-

keepers have sent for my circular, and 99 out of every 100 say, "I saw your advertisement in the AMERICAN BEE JOURNAL." The BEE JOURNAL must have a large circulation—and why should it not? I notice that one man thinks we need a new journal, and expresses a strong desire to kill out the old AMERICAN BEE JOURNAL. I wonder where they will find their NEWMAN to run it; they must have him if they expect to meet with success.

Wenham, Mass.

For the American Bee Journal.

Queens Duplicating Themselves.

A. F. MOON.

The March No. of the AMERICAN BEE JOURNAL, under the above heading, contained an acceptance of my proposition, from Mr. D. A. Pike, which was made in September number of BEE JOURNAL, of 1879. I was pleased to see a breeder come to the front with these "princesses," and hope that he will, as he says, "bear off the palm."

From the following postal card received from him it would seem that he is laboring under some misapprehension with regard to this proposition. If there is anything he does not fully understand, he has plenty of time to inquire or correct, as the case may be:

Smithburg, Md., Jan. 6, 1880.

In the September number of the AMERICAN BEE JOURNAL appeared an article from you, relating to the matter of duplicating queens; I do not like to see such a matter rest so, to be left forever; I am of the opinion that such queens are in existence, and that I even now have them in my apiary, having tested them to my personal satisfaction. The plan of testing does not appear plain in every particular, perhaps you can give some light on the subject. Are the men who are to rear the queens situated so as to have no difficulty with black bees? How many are to constitute this committee? If perfect satisfaction can be obtained, you may find an aceeptance to your challenge.

D. A. PIKE.

From the above, it would seem that Mr. Pike is laboring under some mistake. First, the plan of testing is very simple, all he has to do is to send the "princess," (one that he has tested to his personal satisfaction), to Prof. Cook, or any man, or set of men, and they will put her to the simple test of rearing 12 queens from her; the 12 to be reared at one time. I do not think it will make any difference what time of the moon they are to be reared, whether in the new, full, or the last quarter, only that the 12 in number are to be the exact "duplicates of their mother in color!"

Their being reared near black bees will never affect a purely mated queen, and especially one of such remarkable purity, and more especially one that has received a careful test by friend Pike, for such an occasion as this. As to the number of committee it will make no difference with me, if they be men capable of judging between black and white.

All I have to say, is send on the "princess," one that you know to be true (be sure you get the right one), and Prof. Cook will test her, and report the result, whether they are duplicates of the mother, or not, or have colors of different hues.

Rome, Ga., March 17, 1880.

For the American Bee Journal.

Hives made of Wood, Plaster and Sand.

C. W. SAPPENFIELD.

On the subject of wintering bees, much has been said, and many have given their views and modes of wintering. There are points that almost all agree upon, viz: plenty of food, even temperature, occasional flights, and keep them dry. The first point may be remedied by feeding, either in the winter or in the fall, depending on latitude as to fall feeding. If the colony has 20 or 30 lbs. of honey it is safe, on that point.

Even temperature is the point on which so many disagree—as to how the proper temperature shall be attained.

For 30 years I have been "experimenting." I have tried cellar wintering, with only moderate success, losing many by "spring dwindling." I have wintered in a warm house, with nearly the same results. I have wintered on summer stands, packed in chaff, straw, leaves, and sawdust, and in all of the latter modes, have had trouble with mice, rats, and moisture; losing more or less. I have tried the "American," "Cottage," "Continental," "Hicks," "Kidder," "Mitchell," "Langstroth," and many other styles of hives, with about the same results, as to wintering, but a great difference as to surplus honey.

I have for three winters, used the "Farmers' Bee Hive," which has so far proven to be the best for cellar, warm house, straw, chaff, leaves and sawdust packing, all combined. It far excels any and all of them. I have the first colony yet to lose by wintering in them. I have in every instance left them on

the summer stand, in the same position; only removing the sections, and placing quilts over the frames. The plan of the hive is that of the Langstroth, except the base, which is like a hip roof inverted and supported by four legs. The surplus arrangement is that of the Langstroth. The inside is plaster and sand, an inch or more thick, with an air chamber between the plaster and wood. Having tried the hive three winters under the most severe tests, with entire success, and as a summer hive with the same results, being the only hive, this year, in which I obtained any surplus honey, averaging 80 lbs. to the colony, with the same facilities of my other hives, and the same strain of bees. The only reason I can give why I got better results from the lined hive is, that the plaster and sand being two of the greatest absorbents known, facilitated the evaporation of water from the nectar, also being a good non-conductor, enabled the bees to keep the proper temperature. I use no upward ventilation, as in summer it only attracts robbers, and in winter it ventilates the bees out of your hives. I obtain all the advantages of upward ventilation by absorption. By wintering on the summer stands my bees fly when it is warm enough, the plaster and sand, keeping the hive dry and with such a house the bees pass the winter in a continuous holiday, greeting their master with music every warm day.

Crawfordsville, Ind., Feb. 19, 1880.

For the American Bee Journal.

Taking Sections from Broad Frames.

O. E. COOLEY.

A correspondent in a recent BEE JOURNAL relates his troubles in removing sections when filled from the wide frames which hold them in the super. The plan that has proved entirely satisfactory with me for the past two years is as follows: My supers are 16 inches wide, and will consequently hold 8 broad 2-inch frames of sections. When putting them on the hive I place 4 frames of sections on one side in the super, and three in the other, and put a frame of comb in the space left in the middle. The top bar to my frame of comb is 1½ inches wide, and the bees will not fasten it to the sections on either side. When the sections are filled, or when I wish to examine them, I have only to take the frame of comb out of the center, and I can remove the sections at once. Another advantage is derived from using the frame of empty comb: the bees will go to work sooner than they otherwise would in the supers and they will begin in the right place. Last year I put 3 and 4 frames of comb, and filled out the balance with frames of sections, in a few supers, in order to ascertain if swarming could not be partly controlled thereby, and the result was reasonably satisfactory. By keeping the honey closely extracted from the frames and taking off the sections as soon as filled, and replacing them with empty ones, swarming was materially checked, although not entirely prevented.

Will others experiment in this direction and report results in the BEE JOURNAL?

Bluffton, Iowa, April 1, 1880.

Translated from the Bienen-Zeitung.

Electricity upon Workers and Drones.

O. FREIWIRTH.

When I made my first trials of subduing bees by the use of the electric induction current, I had no drones in my experimenting hives, and could therefore only establish the fact, that bees, according to the strength of the current employed, would sooner or later fully recover, apparently without injury to their health. Afterwards, when I had drones, I continued my experiments, first taking them singly and afterwards together with the workers. Here I made the remarkable discovery that the drones, as soon as they come in contact with electricity, instantly die. At first I supposed that the current had been too powerful, and to test this, I employed the galvano-meter, by which to ascertain the strength. To my surprise I found the magnetic needle showing the same as usual, 20°. By this I was led to believe that drones are more delicate and much more frail than the workers. To make sure of this, I took a small number of bees and drones, and electrified them together and simultaneously. The result was the same as before; the workers recovered after a few minutes, but the drones were dead. Of the relative weakness of the drones, every apiarist can convince himself by taking a full grown drone between two fingers, and, without pressing it, keep the fingers on the head and the little shield upon the back for a few seconds, he will then have in his hand a dead drone; while a worker, treated in the same manner, will remain healthy and active. In this bodily weakness of the drones may be found an explanation of the remarkable circumstance, that the drones run around in the hive cow-

ardly and timid, and that the little bees come off victorious in a combat with them. In all probability it is not always the sting, which brings death to the drone, but their being pulled hither and thither.

This remarkable fact of the different effects of the electric current upon bees and drones may induce apiarists to try further experiments in this direction. Possibly electricity will furnish a radical remedy for relieving hives that are overfilled with drones. Whether the queen would suffer through the effect of the induction current or not I could not ascertain, as I had no superfluous queen to experiment with. But I think we may safely assume that a queen whose constitution permits it to live for several years is not more delicate than a worker-bee. Continued experiments might prove whether electrified queens would be capable of producing drones only, as is the case when they have been chilled.

By charging with electricity the alighting board I have disabled and caught a large number of robber-bees in front of a hive where the robbing was going on lively. I closed the entrance, and charged the alighting board, to which I had attached several wires, with electricity, and all the robbers that flew upon it remained sticking to it as if nailed to the spot; the small pile soon increased to one of wonderful size; when no more arrived I swept the captured robbers into a little box and towards evening I set them at liberty. I hardly think that a more radical remedy is known, for usually the robbers attack another hive when the entrance of the one first attacked has been closed to them.

At all events, electricity deserves to be taken into consideration by all thoughtful apiarists. Who knows but that the scintilla of electricity may not also permit a great light to dawn upon us?

Cannstatt, Germany.

For the American Bee Journal.

Spring Report—Strange Case—The Northeastern Convention.

R. M. ARGO.

In the January No. of the BEE JOURNAL, page 42, I requested bee-keepers to report this month their success in wintering. I predicted that all black bees not fed for winter, in this neighborhood, would die during this month, if not before. The remarkably mild winter is all that saved them. But, so far as I can now learn, all such as are now alive are only living "from hand to mouth" on fruit bloom, and a few wet days would end their existence. As I predicted in a former article that we may have our winter in March and April, so it has been thus far. Peach trees have been in full bloom nearly 2 weeks, and were not killed a week ago, though they may be killed now, as we have had several sharp frosts, and some ice ⅛ of an inch thick. I only lost 1 colony, and that during March. It was one of my strongest ones, with an imported queen, leaving about 20 pounds of sealed honey, and plenty of pollen in reach; it had drones on the wing on Feb. 21; it was all right on March 1, but was found dead after the cold spell about March 19. All the bees were in a large compact cluster. I confess that with all my bee-skill I am unable to account for this; for they had a good flight and were gathering pollen a week or 10 days before. Here, Mr. Doolittle, is a case for you.

Nothing ever struck me with greater surprise than the report of the N. E. Bee-Keepers' Convention. I have always had much respect for many of those present. I have known parallel cases to transpire among members of religious and political conventions; but such conventions or members always came out at the little end of the horn, just as I expect the above one will, in due time. I cannot well explain what was the matter with these men; but Job i: 6—12, will probably furnish an explanation.

I am interested in the whole bee fraternity of the United States, both North and South, but in no particular convention, association or journal, and, therefore, I am an impartial, unbiassed observer. One good journal is better than two; two are better than three, and three better than four, etc.; so, I say, we need no more bee journals, but we do need a North American Bee Convention, if the members will all dwell together in harmony in one general ring, or no ring at all. The attempt to form a granger journal signifies the formation of a ring; I can understand it in no other way. But no granger ring ever held together long, and never will, on such principles as they are formed.

Lowell, Ky., April 12, 1880.

☞ In Cochin, China, they have a species of bee larger than the German. They are numerous along the coast, and have a singular long mouth, with which they suck the honey from the deepest flower cups. They build comb in hollow trees.

Conventions.

Read before the N. E. Convention.

Races of Bees and Different Crosses.

JULIUS HOFFMAN.

Ever since the introduction of the gentle and industrious bees of Italy by the great master, Dr. Dzierzon, intelligent bee-keepers of Europe and this country have labored to improve their bees by breeding as well as by introducing different races.

It is well known that great differences are found in productiveness and disposition among colonies of the same apiary, even when belonging to the same race. We also know that these differences exist among the several races of bees. This fact being established, the bee-keepers of to-day will have to take advantage of it in trying to procure the most profitable bees.

I will first consider the improvement with a certain race of bees, which I believe to be of the highest importance. When bees increase naturally (that is, by swarming), the best colonies will first be ready to swarm, and rear young queens, which will generally cross with the drones from other good colonies, as such will naturally produce drones earlier and more numerously than less prosperous ones. This is entirely different when we do not allow our bees to swarm and compel them to raise queens; great skill and experience will then be required to keep our bees from degenerating; we ought, therefore, to imitate nature, for it is only in this way, by crosses between our best colonies, that we can procure the most profitable bee, and even improve nature.

The improvement of our bees by foreign races is another important point that we gain over nature, as we can take advantage of the good qualities of the bees we import from distant countries, and reduce the qualities which are not desirable. This will be accomplished by cross-breeding different races, which will lead us to the much discussed question of which is the best race of bees? In reviewing the different races of bees, I will try to give their respective good and bad qualities as they appear to me, and with as few words as possible.

I will begin with the common black bees, the native bee of Germany and England, which at present is predominant in this country. This bee has some excellent qualities; their queens are long-lived and hardy, and the comb honey produced by them is the nicest in appearance that we get. Credit is also given them for working on buckwheat better than Italians.

Next I will mention the Italian bee. Their appearance is so well known that I will omit describing them. The Italians are now generally acknowledged to be more industrious and gentle than black bees. In time of scarcity they will work on flowers which black bees will not notice; in consequence, they store more honey. They defend their hives better than blacks against robbers and the moth. In handling them they are more quiet, and do not leave their combs as blacks do, which enables us to find the queens much easier; the light color of their queens also aids us in this last point. They have, however, one bad quality; they cease brood rearing too early in the season, and generally go into winter quarters weak in numbers.

The Carniolan or Krainer bees are not much different from the common black bee, they are a little more gray in color than black bees, and are said to be more gentle, but ther swarming propensity is very great.

The Egyptian bee has been imported to Germany, and, after a thorough trial, it has been found worthless for honey production.

Lastly, I will mention the Cyprian bee, which was imported by Count Kolowrat, in 1872, into Austria, and is now fast becoming the preferred bee in Austria and Germany. As the Cyprians have been described in the *Bee Keepers' Exchange* and in the AMERICAN BEE JOURNAL, I will now only give in short their prominent qualities as known to me by information and partly by my own experience. Although more beautiful than the Italian, they are not as lazy as most of the bright-colored Italians, but are a very industrious and vigorous race. One of their most prominent characteristics is the rapidity with which they carry on breeding in the spring. Mr. E. Hilbert, of Prussia, the well known discoverer of the foul brood remedy, said the following at the last Bee Keepers' Convention held at Prague: "I will admit the Italians to be more gentle, but this is the only point in favor of the Italians. In all other good qualities given to the Italians, the Cyprians not only equal them, but surpass them greatly. A Cyprian colony will never, even in our cold climate, go into winter quarters so weak in numbers as the Italians, nor will they come out so weak in spring. One very good quality of their queens is their longevity as compared with Italian queens.

For defending their homes, they have proved to be the most vigorous, watchful, and strongest of all races." In conclusion, Mr. Hilbert says: "For the purpose of improving the blood of other races in crossing them, the Cyprians are the most valuable of all races." So far, all other reports agree with the above with the exception of one point, which is their disposition. While some say they are crosser, others find them as gentle as Italians.

Having now reviewed the different races of bees, I will give my conclusions in regard to what I think the most desirable "cross" of the different races for practical bee-keeping, and will say: Mate the gentle Italians with the vigorous Cyprians.

If from some queen-breeders we can get pure Italians, and from others pure Cyprians, we will have the best material for the future bee of America, and it only remains for us, by intelligent breeding, to incorporate the two into one fixed race.

Fort Plain, N. Y.

Read before the N. E. Convention.

Comb Foundation and Its Uses.

MRS. F. DUNHAM.

Bee-keepers at the present day scarcely need to be told what comb foundation is; though its general use can be dated back but a few years. Even as late as the seasons of 1876 and 1877 only a few used it in any quantity; and of those few approved of it, while many condemned its use altogether.

Writers have given us a minute history of the original invention of foundation, and to Herr Mehring or F. Weiss be accorded the great honor. It is an easy thing to improve an invention, after a great mind has originally thought of and demonstrated its practicability.

We have many ways of making foundation though there are but four kinds:

1. That with the base of the cell in natural form, with a mere outline of the wall between the cells.

2. That with the base flat, with wires inserted, and the walls well formed for the brood comb, while that for surplus honey has no wire.

3. That with the base of natural shape, and walls brought up to form even surfaces, while at the joining of the cells there is a triangular portion of wax, which adds strength.

4. Foundation with walls on one side only, and a comparatively flat surface on the other.

A few years ago all efforts were turned toward keeping drone comb down; that is, preventing the bees from building it, or by cutting it out after being built, and one of the strongest arguments against artificial division of colonies, which now we find so essential, was the liability of bees to build drone comb under certain conditions, which it was then almost impossible to guard against; and much labor was spent upon a matter to which we give no thought to-day, for the reason that it is only necessary to give bees full frames of *worker* foundation to insure there being no drone comb built in the hive.

And it is difficult to estimate the importance of this matter, for, with the ability to control the rearing of drones given us, we can hardly see any limit to the improvement of such qualities as we demand in a queen and her progeny, viz.: docility, prolificness, honey gathering, and disinclination to swarm.

And, again, how we labored to have the bees build straight combs. The apiarist who could say: "I have 100 colonies of bees, and not one crooked comb among them," was looked upon as a wonder of industry; for it represented days and months of unremitted care, attention, and *hard work*. Now it is nothing, straight combs are a *certainty*, with a free use of foundation.

As before said, there are several methods of making foundation. The wax must first be formed into sheets, where rolls or presses are used; and there are also a number of ways to sheet wax, of which I will mention the three best: Smooth boards, thoroughly water soaked, are dipped into melted wax, and then into *warm water*, the operation being repeated till the sheet is thick enough. Or a wooden cylinder is used, which revolves in the wax; this reduces the labor of sheeting it very materially, and, lastly, metal plates are dipped into the hot wax and then into *ice* water. It is of course unnecessary to add that the last is the most expensive method. The sheets so formed are dipped into a preparation of slippery elm or starch water (some use soap, but it should be borne in mind that the bees dislike soap), and then carried through the rolls of a foundation machine, to give them the desired impression of either style of foundation before mentioned, with one of which wires are deftly inserted. To prevent the wax sticking, it is necessary to brush the rolls well with the solution used.

There is also a very ingeniously-formed press, in which sheeted wax laid on a brood frame already wired is

pressed into foundation, which of course is fastened into the frame by the same operation.

Plaster or metal casts, double or single, are also used; by being dipped into melted wax, the sheet so formed being the foundation, without needing any further manipulation.

Another and more laborious method is to take sheeted wax and, with a die or cluster of dies and mallet, form cells as regularly as possible over the whole surface; the opposite side, of course, it is almost impossible to form.

In regard to the proper use of foundation, I may be pardoned perhaps in making the assertion, that, in nine cases out of ten, the good or bad effects *in the brood chamber* are entirely within the control of the bee-keeper himself, depending largely upon the thickness and purity of the foundation, the manner of fastening, and the time of its insertion into the hive.

Many apiarists, who approved of foun- from the first, were severely tried by its liability to sag, and sometimes even break down, after being well drawn out and filled with brood and honey.

It was soon discovered that *breaking* of the comb was generally caused by impure substances mixed with the wax; as the wax of commerce is frequently adulterated with tallow, cerasin, flour, etc.; though all may be detected by an experienced person, either by odor, taste or feeling.

Sagging was due to the same causes, and sometimes by a failure to insert the foundation with the broad part of the cell uppermost, as the wall with the pointed part up gives much less support, as is easily demonstrated. Another cause of sagging was the use of sheets of foundation made too thin to support (after being softened by the great heat of the hive) the mere weight of the bees employed in working it out.

A single season will convince those using it extensively that it not only does not pay, but is a positive, loss to use foundation in the brood chamber thinner than 4 or 4½ feet to the pound. In using foundation to obtain the best results, take a heavy sheet, cut it to the size of the frame; it must be fastened properly, that is, warmed slightly and rubbed with a putty knife well into the top bar of the frame; and here let me say that I most decidedly prefer the triangular top bar; it gives good support to the foundation, which by its use has not to be bent at right angles, and so, perhaps, be broken or cracked, and there is less danger of your knife cutting through in fastening it on. Having fastened the comb foundation into the frame, insert it into the hive in the afternoon, so that the whole forces of the hive may work at it and have it well drawn out before it is subjected to the heat of the noonday sun. You need trouble yourself no further about it, for the bees will take care of it.

But suppose you had used the thin foundation (say 6 Langstroth frames to the pound), you gain 2 sheets, or the bases of 2; but see the added work. In the first place, you must cut it at least an inch short, for fear of sagging, some will not, but the bees will fill up the inch allowed with drone comb; other frames will stretch, and will have to be carefully looked after, and perhaps cut off; and, again, many will not be joined to the bottom bar, which is bad for extracting; and, after all, you merely have the central portion of the comb, and your finest honey has to be drawn upon to make up the deficiency in wax, at the rate of 15 lbs of honey to produce 1 lb of wax (some authorities say 20 lbs), but, at the least calculation, the wax so produced costs $1.50 per lb, to say nothing of the enforced idleness of your bees, in secreting wax, at the height of the clover or basswood season.

The giving of foundation in early spring induces the bees to great activity, and so influences the queen to lay freely, when she would not do so at all in old combs. Therefore, provide the queen with foundation as fast as she is able to occupy it, taking away the old combs to make room, and saving them for swarms or extracting.

Thin Foundation for Surplus Honey.

Here the bee-keeper has not the matter so fully in his own hands, for the bees *will* thin foundation in the surplus boxes, and, again, in a great flow of honey, sometimes *will not*. I imagine the form of the piece of foundation given them has something to do with it. A pointed piece, reaching to the bottom of the box, and serving as a climber, is almost always thinned, while a straight piece, the full size of the box, but reaching only half way down, is not as apt to be well worked out. It is much better to fill the boxes full, and have them drawn out before the season commences, in the body of the hive. Thin, flat-bottomed foundation is very highly prized for surplus honey, as is also all that with a very thin base.

But it should be borne in mind that the heavier foundation should *never* be used in boxes in its crude state, but should be first well drawn out in the lower hive.

In concluding, let me mention a strange fact that has come to my no-

tice. In melting a boiler full of wax, the sheets first dipped out are the lightest colored and most beautiful, but they are also the *weakest;* that dipped after, and several shades darker, has greater strength and tenacity. Undoubtedly others have observed the same thing.

The bee-keeper of to-day has great cause for thankfulness. For this invention of comb foundation is of as great importance as the movable frame hive, which in a few years revolutionized the whole system of bee-keeping. All honor to Langstroth.

Foundation is now fully appreciated, and the fact is becoming apparent, that, properly used, we can double our honey crop, and with less labor than it took in years gone by to manage the common box hive.

Depere, Wis.

Read before the N. E. Convention.

Perfect Comb Foundation.

J. VAN DUESEN.

To comprehend the subject, it is necessary to define what constitutes perfect comb foundation. It is a sheet of pure wax put in such shape as will enable the bees to utilize the greatest amount of wax in the construction of their cells, in the least time—of sufficient strength when used in brood frames to retain a perfect shaped cell, and be handled safely in extracting or moving—to which you can introduce a colony of bees, whenever it is necessary to hive them, without danger of its breaking down, and when used in surplus honey to be acceptable to the consumer. The above are essential points in good foundation. There is a very general method of manufacturing by melting the wax, without using heat enough to color the same, giving it sufficient time to settle and free itself of impurities, and sheeting on flat sheets of iron, or cylinders of iron or wood, of a proper width for your rollers, which vary from 3½ to 18 inches, and, after passing through the rollers to dry, cut to size required, paper and box for market. This will answer for ordinary foundation, from 3 to 5 feet to the lb.; but when you get to the lighter foundation, 10 to 18 feet to the lb., it requires special facilities and special help. Others use a press making a single sheet for each impression, as in printing, the weight varying with the weight of each sheet. Order is an immutable law of our Creator, else this system of worlds revolving in mid-air would be clashing.

The tiniest insect that crawls is endowed with the instinct necessary for its own preservation and reproduction. The honey bee is endowed not only with instinct but order. We find it not only building its cells but arranging them in perfect order, 5 cells to the inch, and that its cells may be of uniform thickness, they are made hexagonal, each square inch containing 25 cells, and each hive, as we furnish the frames, contains 8 combs, say 1 foot square, making 57,600 cells. A swarm of bees is put in a hive say with eight frames; they commence by building 1 cell at a time, here and there, in each of the 8 frames, and they will take from 2 to 6 weeks to fill these frames, according to circumstances, or as honey is flush or scarce; so that it used to be an old adage that "a swarm of bees in May, was worth a ton of hay;" "in June, a silver spoon;" in July, not worth a fly." These 57,600 cells we will suppose to be ½ filled with brood and the balance with honey, so we may estimate a colony to contain between 20,000 and 30,000 bees, as to size of brood comb used. To build 57,600 cells in the brood department alone is no small task, but when we add as many more for surplus honey, it might seem discouraging to any but the busy bee, they being formerly required to work without the aid of foundation, and if a swarm could not be hived before July they could not secure stores sufficient to carry them through the winter, consequently, in most cases, were of no value.

They usually commence building their cells near the center of top bar, and circling around it; but few find room to work on the cells, while the balance are idle, or stopping the crevices in the hive with propolis; when empty boxes were put on they worked to the same disadvantage. Man, with his accumulated facilities, lays out the work in the space to be occupied by the brood and honey department of the hives and boxes, and the bees being all permitted to work, as their instinct inclines them to do, the cells spring up as if by magic, and in 24 to 48 hours they begin to deposit brood and honey. Thus the July swarm, that was thought to be of no value, not only sustains itself, but proves a source of revenue to its possessor. Man has not only made the ox, the ass, the horse, and all the subtler elements subservient to his will, but is now utilizing the insect to add to his revenues.

I make a foundation with heavy side wall, 4 feet square to the lb., and submit it to the test of the bees, and find they do not utilize the whole of the wax. I make a foundation with light side wall, and find they are not satis-

fied with it, but wander around and nibble it. I make a foundation with high, sharp, side wall, and, finding them contented therewith, adopt it. I find by inserting fine wire to give strength to the brood comb, I have produced what I call a perfect foundation. For brood comb, say 6 square feet to the lb. Now, I give the screws to the same machine an extra turn and produce a foundation 10 to 14 square feet to the lb., with high, sharp, side walls, that are all utilized in the construction of the cells, and find a delicate foundation that, when used, is acceptable to the consumers of honey. Not that an expert in testing honey may not occasionally detect it, but the general consumer will accept and enjoy it as a luxury.

Sprout Brook, N. Y.

Letter Drawer.

South Bend, Ind., April 9, 1880.

My 50 colonies of bees wintered without loss, so far. I think some of them are stronger than in the fall; part are in the cellar and part on the summer stands protected. I could not do without the AMERICAN BEE JOURNAL.

A. J. HATFIELD.

Dundee, Ill., April 3, 1880.

I took my 30 colonies of bees from the cellar to-day. They are in splendid condition. I lost but one. The day is lovely; all nature is clad in the habiliments of joy, the birds are filling the air with their notes of music, and why should not man be happy? I never had my bees to come through so strongly before, and with so many young ones. I introduced two of the Pometta Italian queens into my hives on Sept. 18. The hives are full enough to swarm, if it was time for it, and the combs are full of young bees in all stages. I intend to stock my apiary from those two queens. I shall allow one to rear queens, the other drones, to the exclusion of all others. Can I do it? As it is nearly swarming time, I will state my plan of treating bees that are high minded and have exalted notions, those that settle in the top of the tall oaks. In my yard I go through the hive and remove all queen cells but one; and when the clustering is well under way I get my shot gun and put a charge of bird shot into the cluster. In a short time they come back to the hive like doves to the window; a few are sacrificed but the majority are saved. As soon as quiet is restored, I go through the hive again, and if I find the queen uninjured, I destroy the saved cell. If the queen is injured in the least I destroy her and raise a young one; that generally ends the swarming for the season. I wish but little or no increase.

E. J. GOULD.

[You cannot prevent drone-breeding to some extent among your black bees; but can greatly facilitate drone-rearing, where desired, by placing drone combs in the centre of the brood-chamber and stimulating the colony by night feeding, when the bees will rear the drones preparatory to swarming.—ED.]

Poplar Bluff, Mo., May 7, 1880.

I extracted 220 gallons of honey last spring from 58 colonies, in about 4 weeks. One of my neighbors found 15 bee trees here last fall and winter; from some trees he obtained 100 lbs. of honey. This is a good locality for bees, but there are few persons here who give them attention. The forests are abundantly spread with flowers from spring till fall. White clover is also plenty.

W. N. CRAVEN.

Northville, Mich., March 28, 1880.

Last season I commenced with 17 colonies of bees. I increased to 35, and obtained 1,400 lbs of honey from white clover and basswood, having none after July 12. I sold 5 colonies, and 1 became queenless in the cellar in the winter and died. The rest are all in good condition. One of my neighbors put 17 colonies into a light cellar, closed up the entrances, and lost all but 2, and cannot think why! He uses box-hives and takes no bee papers. Bees that were properly taken care of in this locality have wintered well.

RANSOM ALLEN.

Richmond, Ind., March 31, 1880.

Last fall, anticipating a mild winter, I departed from my usual custom of wintering my bees in the cellar, and packed on the summer stands, with quilt and sawdust, covering all with a good roof. They wintered without loss, and are in good condition. Some of my neighbors who gave no protection have lost a few, and are feeding to save others. My bees remained quiet in their hives, and when unpacked, bees were flying freely. It made a saving to me in stores. Bees are gathering pollen and breeding strongly. I think the prospect is excellent for a good season and a large crop of honey. Success to the AMERICAN BEE JOURNAL.

M. H. WOLFER.

Wilmington, N. C., April 2, 1880.

I, and I firmly believe 99 out of every 100 of the subscribers of the AMERICAN BEE JOURNAL, have the fullest confidence in its editor's honor and integrity, and his ability to properly conduct the BEE JOURNAL. And we will ever be glad to see the JOURNAL move "onward and upward," as it has been doing ever since my acquaintance with it.

"We have hope that the love of the truth
Will preside in the bosoms of all,
So that man, whether old or in youth,
May speak freely, not fearing to fall."

Our bees are in tip-top order, and the hives crammed full to overflowing with bees. We will have lots of swarms by the middle of this month in this latitude. Don't you wish you were down here in our bright and jolly sunny clime? Yes, I am sure you do. Let's have the next year's meeting of the National Association here in Wilmington.

R. C. TAYLOR.

[The location of the National Convention for 1881 will rest entirely with those present at Cincinnati next fall. If those present think it best to locate the next further South, or East, or West, we shall be satisfied. It should be in a different State every year, we think, to make it the most beneficial to the great body of apiarists. We desire only its permanent good, and have *no* axe to grind or selfish purpose to serve with it.—ED.]

De Kalb Junction, N. Y., Mar. 30, 1880.

About a year ago I promised my report at the close of the honey season, but failed to give it. We had a good honey season, for a short one, no honey being gathered after July 25. I began the season with 116 colonies, increased them to 210 by natural swarming, and obtained about 8,000 lbs of comb honey, mostly in prize boxes. I sold the bulk of the crop for 19 cts. per lb. Bees in this section are now all in cellars, and will be for some time to come. I do not know what condition my bees are in, for I have not seen them but once since they went into winter quarters, and that was the last of January. They are 20 miles from home in a cellar, and were in fine condition when last seen. We are looking for a poor honey harvest here the coming season, as there has been but little snow, and for the last two months the ground has been bare, thawing every day and freezing every night, which as a rule kills nearly all the white and Alsike clover, the best sources of honey in this section. About every third year is a regular bee-killer with those that do not feed their bees when honey fails. Much is said of late about dollar queens. I have paid $5 several times for queens, yet I have never got one that produced as good workers as those sent me by H. Alley for a dollar. The workers reared from the dollar queens would find honey if it was to be had, and store it in the boxes at once. Another important point in their favor was that they were small eaters while in winter quarters. I do not rear queens to sell at any price, but this is my experience.

IRA BARBER.

Rice County, Minn., March 20, 1880.

In the fall of 1876 I bought 4 colonies of bees for $40. The next fall I had 400 lbs. of comb honey worth $100, and 14 swarms worth $100, the income from these being $200.

In the fall of 1877 and the next spring I had 18, and in the fall I had 1,100 lbs. of comb honey, worth $220, and 26 swarms, with the 18 original colonies making 44. The next spring they came out all right, and I sold 22 of them for $112, making $332 income from them, and had 22 colonies left.

In the fall of 1879 I had 750 lbs. of comb honey, worth $135, and I sold $25 worth of bees and had 50 colonies left, 26 more than I had in the spring, worth $100; the income of honey and bees being $260.

Last year I ran them for honey. I have not lost one colony in winter or summer. Who can show a better record? This was all done with the little, despised, black bee, and with nothing but log and box hives. Now, would you advise me to get some frame hives and Italian bees, so that I might lose half of them every winter and gather less honey?

JOSEPH COEAGNE.

[We should never advise a change when doing so well—but where can you find another that has such a regular bonanza as you have? See what a honey-producing country, honey market with high prices, and desirable location, with industrious bees, you report! The like of this can hardly be found anywhere else, and you will do well if you can keep it all to yourself. "Mum's the word," for your benefit.—ED.]

Shelbyville, Tenn., April 10, 1880.

My 36 colonies wintered well, and are now at work in surplus boxes. I had drones on the 1st of April.

J. W. PRICE.

Manteno, Ill., March 8, 1880.

Inclosed please find specimens of spiders that I find quite plenty in and about my bee hives. My attention was first drawn to them by finding the remains of a good many bees on the top of canvas that covers frames of bees. I do not know whether they kill the bees, or feed on those that naturally die. In fine weather they sit on the packing around the hives and sun themselves. They are wonderfully active and hard to catch. I have not noticed any webs about the hives. I keep a few good colonies of bees just for the fun and sweetness of the business. My bees are wintering well. PHILIP P. NELSON.

[The spiders were too much crushed for identification. It is quite possible that they kill the bees, and more likely than that they feed on those already dead. Though I should have little fear of any very serious damage from spiders.—A. J. COOK.]

Bowden, Ga., March 29, 1880.

I am highly pleased with the foundation you sent me, and do not see how I could do without the smoker. I have been transferring my bees into movable frame hives, and have used some of the foundation in full sheets. I have 4 colonies of Italian bees, and I am leaving much drone comb in them and removing all the drone comb from the blacks, so that I shall get drones from my Italians first, and by doing that hope to have my queens fertilized by pure Italian drones. I am the only person in this section who is giving any attention to bees. I am determined to see if there is any money in them. I have been reading the AMERICAN BEE JOURNAL for 4 years, and I think I have been well paid for my subscription money. I would not be without it and try to keep bees. Bees are storing honey every pleasant day, but we have had too much rain. H. M. WILLIAMS, M. D.

Chebanse, Ill., March 29, 1880.

I put into winter quarters 33 colonies of bees about the middle of November, having prepared a room for them in the basement of my barn. They were not moved or disturbed until Feb. 25, except to pass through the room carefully to examine them, about once each week. They became uneasy, and said as plainly as they could that they wanted to see daylight and have a fly. I moved them to their summer stands after night, and awaited anxiously for the results next morning. Having neglected when I put them away in the fall to number the hives and stands, I expected to see much confusion among them. Before 10 o'clock they were flying thickly from every hive, assuring me that all were alive and apparently strong. Every bee seemed to know his home, and all are doing nicely. I have never had bees use so little honey, and am fully persuaded that a good, *dry, dark* room, free from frost and well ventil ted, is the place in which to winter bees. I think fully two-thirds of the last year's swarms in this part of the country starved during the winter, many of them early. REUBEN HAVENS.

Clarksville, N. Y., April 1, 1880.

My bees are in the cellar and are doing well. We are having cold weather now. We had nearly 12 inches of snow on March 27, and it goes off slowly; it will take 3 or 4 days yet to thaw it. I have 146 colonies. A. SNYDER.

Warsaw, Ont., March 19, 1880.

I have just finished moving my bees to a new apiary; they are all out strong to-day. I wintered out of doors; they have had several flights since the 12th of February—a very unusual thing for this locality. GEO. GARLICK.

Union City, Ind., Feb. 26, 1880.

I took my bees out of the cellar to-day. They are now gathering pollen from the maples. This is something I never before saw in this month. I wintered in a sawdust house with walls 12 inches thick, without loss. I lost ⅔ of them in the same house last winter. My bees yielded about 75 lbs. of honey per colony last season. I find the BEE JOURNAL indispensable. A. HOKE.

Rome, Ga., March 17, 1880.

The winter, if such it may be called, has been one of the mildest for many years, with scarcely a day that the bees were not flying. They consumed more honey than if the weather had been cool. By Feb. 20 they were breeding profusely, and were about ready to swarm by March 15. Plums, peaches and cherries blossomed about the end of Feb., but before the bees could gather the honey in them, it commenced to rain, continuing ever since, day and night. The river is now 30 feet above low water mark, and is still rising. Many weak colonies with brood, are in bad condition, and the result will be very disastrous. The prospect for an early spring is good although the swarming season has been checked nearly a month. A. F. MOON.

Owensville, O., April 9, 1880.

My bees have wintered well, and consumed but little of their stores. The weather has been cool since March 1; freezing some nights. The bees are not breeding up very fast. The prospect for a good yield of honey I think is good.

J. B. Rapp.

Chester, S. C., March 24, 1880.

My bees are doing well—the fruit is beginning to bloom. Here we have no spring dwindling. Bees gather no honey in July and August here. I cannot do without the assistance of the Bee Journal. I think more and more of it, every number I get.

H. S. Hardin.

Seymour, Ind., Jan. 1, 1880.

According to previous arrangement, I now report on my trial apiary. Last spring I purchased queens of the following persons, at dates named, and number them as they were received:

1. Rev. A. Salisbury & Hays, May 7, 1879.
2. J. M. Brooks & Bro., May 9, 1879.
3. A. F. Moon, June 6, 1879.
4. W. P. Henderson, June 14, 1879.
5. Aaron Benedict, June 24, 1879.

They were all successfully introduced, and in due time sent out their offspring, and, upon examination, I found I had bees of all colors, from a black to a golden red.

No. 1 was a fine queen, very prolific, workers a light leather color, three distinct bands; drones medium to dark.

No. 2 was a fine queen, very prolific, of a bright golden color; drones of a golden color, bands almost as well marked as the workers, altogether the finest drones I ever saw.

No. 3, fine looking queen, but her offspring was from a black to a bright Italian. I pronounce her a hybrid.

No. 4, workers leather color, bands distinct; drones dark.

No. 5, received a fine queen in the cool weather in May with less than a dozen bees with her. She was chilled. I caged her and placed her in the midst of a colony of bees, but in a short time she was dead. I wrote Mr. Benedict, and he sent me another on June 24; she lived only four weeks, and I only saw her workers, which were dark leather color, but had the three bands.

In this report I have said nothing about prices paid for them; have only to say that they cost me from $2.50 to $5 each.

I ordered a queen from H. A. Burch & Co., but as they did not supply it till late in the season I received my money back.

C. H. Hancock.

Paris, Ill., April 5, 1880.

We organized a bee-keepers' Convention here on the 27th ult.; meet again on May 1st.

J. A. Nelson.

Glasgow, Scotland, March 26, 1880.

Bees have wintered remarkably well all through Great Britain and Ireland. Not more than 1 in 50 colonies have died. Reports from all quarters state that the bees are now in first class condition, but will need a little spring feeding.

John D. Hutchinson.

Austin, Minn., April 3, 1880.

My bees commenced dying last fall and I have lost 15 colonies—cause, unsealed, thin, sour honey—can extract easily with my hands. Bees kept dying all winter until dwindled out, and will continue so until the stuff is removed from the combs, when health is restored. The honey was gathered in a wet season. Symptons: Bees bloated, dragging themselves around with wings in motion; others bloated abdomen with shining black body and shrunken head. I could have prevented the loss had I had the experience. I have now both loss and experience.

Frank A. Ticknor.

Byron, Ill., March 23, 1880.

I put 25 colonies into winter quarters last fall, have lost one by mice. Part were in the cellar, and part were packed in straw; the latter are breeding the most rapidly now, but suffered most with mice. In future I shall place wire cloth above the frames to prevent the entrance of mice. The queen I procured from the Bee Journal apiary is laying vigorously, though in a week colony. I am feeding about a pint of syrup per day.

W. J. Longsdon.

New London, Ind., April 8, 1880.

I have 32 colonies of bees, in good condition. I put them in the cellar about Nov. 15, and took them out during the warm weather in January for about two weeks; I then put them back and let them stay until Feb. 28, when I put them out again. On that afternoon they brought in pollen, and they have been at it ever since. I lost none this winter; all very strong, with very few dead bees about the hives. Last winter I saved 18 out of 40, and these were very weak. I increased to 32, mostly by natural swarming, and obtained about 300 lbs. box honey. Things now look favorable for a good season. The fruit trees are full of buds, and we have plenty of bees to gather the honey if any comes.

C. A. Jones.

Business Matters.

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To Correspondents.

Our Illustrated Catalogue and Price List will be sent free, on application.

When changing a post-office address, mention the *old* address as well as the new one.

Constitutions and By-Laws, for local Associations, $2.00 per 100. The name of the Association printed in the blanks for 50 cents extra.

We do not send goods by C. O. D., unless sufficient money is sent with the order to pay express charges both ways, in case not taken from express office.

Strangers wishing to visit our office and Museum of Implements for the Apiary, should take the Madison street-cars (going west). They pass our door.

In consequence of the dearth of small currency in the country, we will receive either **1, 2 or 3 cent stamps**, for anything desired from this office. We cannot use Canadian or other foreign stamps.

We will send a tested Italian Queen to any one sending us **FIVE** subscribers to the AMERICAN BEE JOURNAL with **$7.50.** The premium Queens will in every case be tested, but not sent till after July 1st.

Club names for the BEE JOURNAL may be sent to as many post offices as there are names in the club. Additions can be made to clubs at any time at the same rate. Specimen copies, Posters, and Illustrated Price List sent free upon application, for canvassing.

Seeds or samples of merchandise can be mailed for one cent per ounce, Printed matter one cent for every two ounces. These must be tied up; if pasted, they are subject to letter postage. *Don't send small packages by express, that can just as well be sent by mail.*

Our answer to all who ask credit is this: We sell on **small** margins, and cannot afford to take the risks of doing a credit business. If we did such a business, we should be obliged to add at least 10 to 20 per cent. more to our prices, to make up for those who would never pay, and to pay the expenses of keeping book-accounts with our customers—this we know our **Cash** customers would not think to their advantage.—This rule we must make general in order not to do injustice to any one. The cash system gives all the advantage to cash customers, while the credit system works to their injury. In justice to all we must therefore require **Cash with the order.**

Bingham's Smoker Corner.

"Whew! 12,000! whew!" Patent Bingham smokers sold. All bellows smoker patents subject to Bingham's original and first patents.

"Draft," not blast, the question! Most of the old smoker makers have tried to get permission to use direct-draft in smokers, but have invariably been refused.

Without substantially my patent draft, all smokers now made would be worthless, while with it, substantially, and for the purposes of draft, all are infringements.

Our patents reduced the cost of smokers to bee-keepers one-third, increased their durability and convenience beyond calculation or competition, and secured beyond question or cavil their title and credit to the original inventor. Four years have passed, and many worthless infringements have been sold to innocent parties, but no one except Bingham has improved on the original patent Bingham smoker. Our patents, granted and pending, will enable us to make and sell the best smokers from fourteen to seventeen years longer, and we expect to do it. Original and first patents pay, and are safe to sell or use. T. F. BINGHAM.

Monmouth, Ill., April 12, 1880.

The large smoker came duly. Have tried it, and like your improvements very much; it is now all that could apparently be desired. T. G. McGAW.

Reading, Pa., April 7, 1880.

I received all safe and sound Bingham's Little Wonder Smoker, and indeed it is a wonder how I ever did without it.

LEE ESENHOWER.

☞ A Convention of the Southern Michigan Bee-Keepers' Association will be held at Battle Creek, Mich., on Wednesday, May 5th, at 10 a. m. B. SALISBURY, *Sec'y.*

☞ The bee-keepers of Northern New York will meet to organize an Association on the 12th of May, 1880, at Glen's Falls, N.Y.

J. H. MARTIN.

☞ The Central Kentucky Bee-Keepers' Association will meet at Lexington, Ky., on Tuesday and Wednesday, May 5th and 6th, at 10 o'clock a. m. Chas. F. Muth, Esq., will be present to deliver an essay on some interesting topic in bee-culture.

W. WILLIAMSON, *Sec'y.*

☞ The South-western Wisconsin Bee-keepers' Association will meet on May 18, 1880, at the residence of E. France, in Platteville, Wis., at 10 o'clock a. m., sharp. The following interesting papers will be read and discussed: Bee Forage, by H. C. Gleason; Italian Bees, by H. Gillmore; Black Bees, by E. France; Marketing Honey, by R. D. Wilson; Natural Swarming, by Mr. Woodberry; Artificial Swarming, by E. France; Transferring, by E. France; Comb and Extracted Honey, by N. France. All persons interested are invited to attend.

NEWELL FRANCE, *Sec'y.*

Honey & Beeswax.

[We will insert free of charge, under this heading, the names and addresses of persons having honey and wax to sell, giving address, description and prices; all to occupy not more than three lines.—ED.]

Honey and Beeswax Market.

BUYERS' QUOTATIONS.

CHICAGO.

HONEY.—Light honey, in single-comb sections, 18@20c.: when with more than one comb in a box, 2c. per lb. less. Extracted, 8@9c.
BEESWAX.—Prime choice yellow, 22@25c; darker grades, 15@18c.

NEW YORK.

HONEY.—Best white, in single-comb sections, 18@22c. Larger boxes, 2c. per lb. less. Extracted, 9@10c.
BEESWAX.—Prime quality, 25@27c.

CINCINNATI.

HONEY.—White, in single-comb sections, 18@20c. Extracted sells readily—8@9c. C. F. MUTH.

SAN FRANCISCO.

HONEY—Comb, 14@16c.; Extracted, 7@9c. ℔ lb.
BEESWAX—22@23c. STEARNS & SMITH.

Local Convention Directory.

1880. *Time and Place of Meeting.*

May 4.—N. W. Ill. & S. W. Wis., at Pecatonica, Ill. Jonathan Stewart, Sec., Rock City, Ill.
4.—Northeastern Wisconsin, at Waupun, Wis. F. Dunham, Sec., Depere, Wis.
4, 5—Central Kentucky, at Lexington, Ky. Wm. Williamson, Sec., Lexington, Ky.
5—Southern Michigan, at Battle Creek, Mich. B. Salisbury, Sec., Battle Creek, Mich.
12—Northern New York, at Glen's Falls, N. Y. J. H. Martin, Sec., Hartford, N. Y.
18—Rock River Valley, at Davis Junction, Ill.
18—S. W. Wisconsin, at Platteville, Wis. N. France, Sec., Platteville, Wis.
25.—Northwestern Union, at Hastings, Minn.
Oct. — —National, at Cincinnati, Ohio.
5, 6.—Northern Michigan, at Carson City, Mich.
14—Southern Kentucky, at Louisville, Ky.
Dec. 8.—Michigan State, at Lansing, Mich.
1881.
Feb. 2—Northeastern, at Rome, N. Y.

GIVEN'S FOUNDATION PRESS.

From $15.00 to $40.00.

Foundation in wired frames a success. Those wishing a sample of our new foundation and a descriptive catalogue, please send your address on a postal. If prices on Copper Dies are wanted, send inside size of your frames.

5p **D. S. GIVEN, Hoopeston, Ill.**

Simplicity, Chaff and Story-and-Half Hives,
SECTIONS, FRAMES,
DUNHAM FOUNDATION, Etc.,
CHEAP.

Workmanship superior. Manufactured by
MERRIAM & FALCONER, Jamestown, N.Y.

BEES FOR SALE.

I will sell good, full colonies of hybrid bees in May at $5.00 each; in June and July, with dollar queen, at $4.00 each; very strong 4-comb nuclei at $3.00 each, all in good 8-comb hives; combs all 13⅞x11 outside. I will sell 5 to 50 colonies, with dollar queen, in 8-comb Langstroth hives, at $5.00 each. Safe arrival and satisfaction guaranteed. R. S. BECKTELL,
5-1t New Buffalo, Berrien Co., Mich.

Worker Combs in Frames,

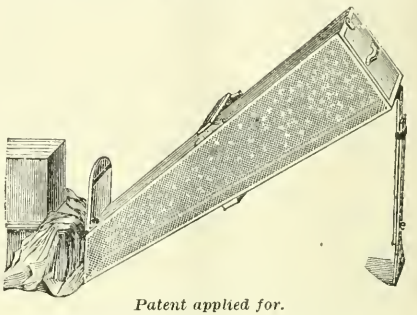
10¾x17½ inches, in good condition, at **25c.** each. Send cash and orders to

5 **F. W. CHAPMAN, Morrison, Ill.**

J. W. BAILEY,

Inventor and Sole Manufacturer of the

BAILEY SWARM CATCHER.



Patent applied for.

In presenting the same, we are happy in knowing by our own experince, and the statements of others, that we are offering an implement that no one who keeps bees can afford to do without. Because without it your bees will often swarm into tall trees where it is very difficult to get them. In its use there will be no more chasing them across the fields, no more defacing choice trees and shrubs, no more smoking them from difficult places, no more swarms going together, and no more clipping the wings of the queens to compel them to stay in the hive, for the Bailey Swarm Catcher can be placed at any hive, and never fails to catch bees when swarming.

Should four swarms issue at the same time, we feel safe in saying that one person can adjust four catchers in a single minute, and thus keep each swarm separate.

A child ten years old can catch your bees, and they can be hived at pleasure.

As soon as you see the bees beginning to swarm, then it is brought into use, and the bees that have escaped will alight upon the outside, and try to get in.

The Swarm Catcher is covered with wire cloth, and can be set at any angle, and by its use, and a queen cage, a swarm can be compelled to stay in any hive.

One Swarm Catcher, boxed and delivered at the cars, $6.00. Two or more, $5.00 each.

Full directions sent with each Catcher.

At Present will ship none to Indiana or Kentucky, as those States are being canvassed.

☞ State and County Rights for sale.

Write your name, Post Office, County and State plain, and send by Postal Money Order, Draft or Registered Letter.

J. W. BAILEY,
5-6 **Box 408, Ripon, Wis.**

DECISION

This One-Piece Section, heretofore called the LEWIS SECTION, has been involved in an Interference, in the Patent Office, at Washington, between James Fornerook and Lewis & Parks, and the Commissioner decided Priority of Invention in favor of James Fornerook. Send for Price List.

JAMES FORNCROOK & CO.
Watertown, Wis., May 1, 1880. 5

ALBINO AND ITALIAN QUEENS,

Full Colonies and Nuclei, at reasonable Prices.—I am prepared to furnish early Queens—Pure Albino and Italian Queens—bred from Imported and select home-bred mothers. Warranted pure and safe arrival guaranteed. Also Hives and Apiarian Supplies generally. Send for Price List.
Address, **S. VALENTINE,**
1tp Double Pipe Creek, Carroll Co., Md.

Tested & Imported Queens

DUNHAM FOUNDATION,

MODEST BEE HIVES,

SECTION BOXES, &c.,

TO BE HAD OF

J. OATMAN & SONS,

DUNDEE, KANE CO., ILL.

N. B.—We shall hereafter rear **NO DOLLAR QUEENS**, but will confine our Queen-rearing to producing **FINEST TESTED QUEENS**, bred for **BUSINESS**. Please take notice. Write for Price List.

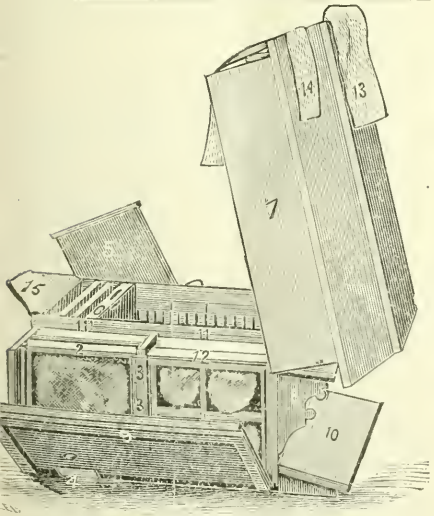
J. OATMAN & SONS,

5-7 Dundee, Kane Co., Ill.

Italian Queens.

I shall rear **PURE ITALIAN QUEENS**, during the season, and will sell them at reasonable prices.

JULIUS BEYER, Butlerville, Ind.



BEES AND SUPPLIES.

Send for Circular and Price List to O. H. TOWNSEND, manufacturer of THE CHALLENGE BEE HIVE, adapted to the use of the American, the Gallup and the Root frames. Italian bees, nuclei, and queens from imported stock. Apiarian stock in general. Address,

5 **O. H. TOWNSEND,** Hubbardston, Ionia Co., Mich.

H. A. BURCH & CO.

Don't advertise much, but they carry a full line of

BEE-KEEPERS' SUPPLIES,

which, for quality and price, make their customers happy. Competent judges say that their

COMB FOUNDATION

is away ahead of all competitors. If you ever feed bees, try a

HEDDON FEEDER,

the latest, and by far the best, invention of its class; we are the sole manufacturers for 1880. For

DOLLAR QUEENS,

from best strains of Italian blood, we shall lead the trade, and you should see that your orders are sent in early. The choicest of

TESTED AND IMPORTED

queens always on hand; if you want splendid **honey gathering** stock, try our queens. A good supply of

FULL COLONIES,

at prices that will please you, if you want the **Best Bees.** Finally, if you want the neatest Apiarian Catalogue printed in any land or language, send your name on a postal card to

H. A. BURCH & CO.,

SOUTH HAVEN, MICH.

CHEAPER STILL.

Yet on hand, **25** Colonies in good condition. As I cannot find time to take care of them will sell for **$4.50** each. Good movable comb hives.

5p **E. A. GASTMAN, Decatur, Ill.**

Salisbury's "Wonder" Chaff Hives and improved Simplicity hives, wonderful for their simplicity and cheapness; section boxes, comb foundation, smokers, extractors, Italian queens, etc. Send for Circular. B. SALISBURY & CO., Battle Creek, Mich.

CHEAP HIVES,

AND

CHEAP SECTIONS.

The **BEST** BEE HIVES, HONEY BOXES, SECTIONS, SECTION CASES, FRAMES, Etc., for **the Least Money.** Manufacturers of the **LEWIS SECTIONS**, all in one piece—the finest Sections in the world—and we make them perfect.

Notice.—There is no patent on the above section, and the Examiner of Interferences of the Patent Office has adjudged the same unpatentable; so, any one has an undisputed right to manufacture, sell or use the same. Do not be mislead by parties claiming a patent on the same.

☞Send for Price-List.

LEWIS & PARKS, Watertown, Wis.

WILLIS D. PARKER,

Manufacturer of Watch & Jewelers' Boxes,

BEE HIVES, SECTION HONEY BOXES,

And other Apiarian Supplies,

DEFIANCE, OHIO.

Send for Circular and Price List. 5-1t

CHAS. F. MUTH,

CINCINNATI, O.,

Manufacturer of and dealer in

MUTH'S ALL-METAL HONEY EXTRACTOR

AND UNCAPPING KNIFE,

LANGSTROTH BEE HIVES,

Glass Honey Jars and Tin Buckets, Bee Vells, Gloves, and a general assortment of Bee-Keepers' Supplies,

ALSIKE CLOVER,

and a variety of Field and Garden Seeds, etc. For further particulars address,

CHAS. F. MUTH,

4-12 976 and 978 Central Ave., Cincinnati, Ohio.

Langstroth Bee Hives,

HONEY EXTRACTORS,

and Section Boxes, at reasonable rates for 1880. Extractors from $10.00 to $12.00. Prize Boxes, $4.00 to $5.00 per 1,000. Address, **R. R. MURPHY,**

4-6 Garden Plain, Whiteside Co., Ill.

THE LATEST IMPROVED

COMPOUND-GEAR

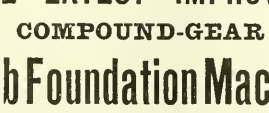
Comb Foundation Machine.

No lost motion in the gearing—may be turned either way. The machine is warranted to do the work like the sample. The rollers are made of the best type metal. The prices are as follows:

No. 1—Rollers	12	inches	long,	4	in.	diameter.... $75 00
" 2 "	12	"	"	2	"	.... 40 00
" 3 "	9	"	"	2	"	.... 25 00
" 4 "	6	"	"	2	"	.... 15 00

Sample of Foundation made on this machine free. For sale at the office of the American Bee Journal.

3tf **C. OLM,** Fond du Lac, Wis.



1880. 1880.

REV. A. SALISBURY,

CAMARGO, ILL.,

Pure Italian Queens, Bees, Foundation Combs, Honey Extractors, Dunham Foundation Machines, &c. **Send for circular.** 3-8

Hale's Price-List.

Send for my price-list of Bees, Queens, Nuclei, &c., for 1880. Early Queens a specialty. Address,

2-11 **E. W. HALE,** Wirt C. H., W. Va.

Price List for 1880, of Italian Bees, Queens, 4 frame Nuclei, and Apiarian Supplies. **Sent Free.** Address,

3tf **H. H. BROWN,** Light Street, Col. Co., Pa.

BEES FOR 1880.

We will furnish Full Colonies, Nuclei and Queens **CHEAP.** Satisfaction guaranteed, For circulars address, **S. D. McLEAN & SON,**

2-7 Culleoka, Maury County, Tenn.

DADANT & SON

COLONIES,

With Imported Tested Italian Queen $13 00
" Home-bred " " " 9 00

Hybrids or blacks in movable-frame or box hives. Have wintered over

100 IMPORTED QUEENS,

and will continue to receive two shipments every month, from May to September.

Root and Dunham Foundation.

The purest and brightest yellow foundation made. Hives, Extractors, Uncapping Cans, Veils, Smokers, Pails, Jars, Knives, etc. Send your name on a postal card for circular and sample of foundation free.

CHAS. DADANT & SON,

3-8 Hamilton, Hancock Co., Ill.

For Sale Cheap.

200 Colonies of Italian Bees.

Having over 450 Colonies of Italian Bees, I will sell 200 in lots of 25, 50, 100 or 200 at $5.00 each, delivered on board of any Mississippi river steamboat. All the Queens are daughters of Imported Mothers, of different parts of Italy. ☞Dollar and Tested Queens now ready to ship. Comb Foundation, Apiarian Supplies, &c. Address,

3-tf PAUL L. VIALLON, Bayou Goula, La.

1880.— —1880.

Italian Queens, Nuclei, &c.

Single Queen, Tested	$2.00
" " Untested (laying)	1.00

By the dozen, 10 per cent. off of above prices. Queens sent by mail and postage prepaid.

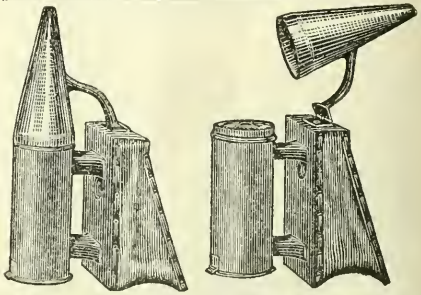
3 frame Nucleus, Untested Queen	$3.00
2 frame Nucleus, Untested Queen	2.50
1 frame Nucleus, Untested Queen	2.00
8 frame Colony, Untested Queen	6.00

Sent by Express. Send money by P. O. Order or Registered Letter. Address,

W. P. HENDERSON,

3-8 Murfreesboro, Tenn.

EVERETT'S Honey Extractors and Everett Langstroth Hives a specialty. We challenge competition in price and quality. Our circular and price list of apiarian supplies, Italian Bees and high-class poultry sent free. **EVERETT BROS.,** Toledo, O.



Scovell's Eureka Cold-Blast Bee Smoker is Boss.—It is a cold-blast or a hot-blast, both at once or separately, at the will of the operator. It is the only cold-blast smoker on the market that has no tubes or other complicated machinery in the fire barrel to interfere with filling or cleaning. Large size bellows 5¼x6¼ inches; fire barrel, 2½ inches.

Price.....**$1.00**; By mail.....**$1.25.**

Send for illustrated descriptive catalogue and price list of hives, implements and supplies used in bee culture. Address, **SCOVELL & ANDERSON,** Columbus, Cherokee County, Kansas. 4-8

1865.— THE —1880.

HONEY HOUSE.

C. O. PERRINE, 54 Michigan Ave., Chicago.

Will buy at a fair price, for cash, any amount of

COMB OR EXTRACTED HONEY.

As a Manufacturer of

COMB FOUNDATION,

I can say my goods have given entire and universal satisfaction. The ruling low prices were made by me, and any one desiring any considerable quantity would do well to consult me before buying elsewhere.

☞ Market price for Beeswax.

1861.-Nineteenth Year.-1880.

The Original Headquarters

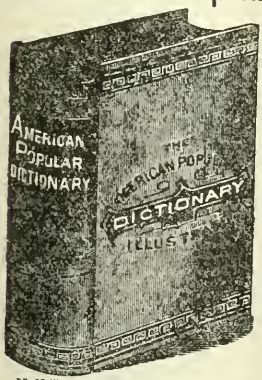
For Italian Queen Bees. Italian, Hungarian and Cyprian Queens. Send for price list for 1880.

4-9 H. ALLEY, Wenham, Mass.

Baker & Co. DESIGNERS AND PHOTO ENGRAVERS ON WOOD.
COR. CLARK & MONROE STS. CHICAGO.
DEALERS IN ENGRAVING TOOLS & ENGRAVERS OUTFITS.
ORDERS BY MAIL SOLICITED.

The American Popular Dictionary

$1.00 Only



This useful and elegant volume is a Complete Library and Encyclopædia, as well as the best Dictionary in the world. Superbly bound in cloth and Gilt. *It contains every word of the English language,* with its *true meaning, derivation, spelling,* and *pronunciation,* and a vast amount of *absolutely necessary information* upon *Science, Mythology, Biography, American History, Laws,* etc., being a perfect Library of Reference. Webster's Dictionary costs $9, and the American Popular Dictionary cost only $1. "Worth ten times the money."—*N. Y. Times.* "We have never seen its equal, either in price, finish, or contents."—*Chris. Advocate.* "A perfect Dictionary and library of reference."—*Leslie's Illus. News, N. Y.* One copy of the American Popular Dictionary (illustrated), the greatest and best book ever published, postpaid to any address on receipt of $1. ☞ Entire satisfaction guaranteed. Two copies postpaid for $2. Order at once! This offer is good for 60 days only, and *will never be made again.* Money may be sent at our risk in a plain letter. Name this paper, and address H. C. DEAN, 89 Metropolitan Block, Chicago, Ills.

☞ Send for Price List of Bees, Queens, Comb Foundation, and APIARIAN SUPPLIES generally. Address,

A. F. STAUFFER,
4-1tp Sterling, Whiteside Co., Ill.

USED LANGSTROTH HIVE

WELL PAINTED, EIGHT-FRAME.

In use 1 year, each.....55c.
" 2 " " .....45c.
Second stories for same, each.....15c.

A limited number for sale.

5 FRANCES DUNHAM, Depere, Wis.

BARNES' PATENT

Foot-Power Machinery

CIRCULAR and SCROLL SAWS

Hand, Circular Rip Saws for general heavy and light ripping. Lathes, &c. These machines are especially adapted to **Hive Making.** It will pay every bee-keeper to send for our 48 page Illustrated Catalogue.

W. F. & JOHN BARNES,
Rockford, Winnebago Co., Ill.
junely

THE BRITISH BEE JOURNAL,

AND BEE-KEEPER'S ADVISER.

The *British Bee Journal* is published monthly at $1.75, and contains the best practical information for the time being, showing what to do, and when and how to do do it.

C. N. ABBOTT, Bee Master,
School of Apiculture, Fairlawn, Southall, London.

WILBOR'S COMPOUND OF

PURE COD LIVER OIL AND LIME.

Wilbor's Cod-Liver Oil and Lime.—The great popularity of this safe and efficacious preparation is alone attributable to its intrinsic worth. In the cure of Coughs, Colds, Asthma, Bronchitis, Whooping Cough, Scrofulous Humors, and all Consumptive Symptoms, it has no superior, if equal. Let no one neglect the early symptoms of disease, when an agent is at hand which will cure all complaints of the Chest, Lungs or Throat. Manufactured only by A. B. WILBOR, Chemist, Boston. Sold by all Druggists.

CANADA.

Brother Bee-Keepers: I will have my **NEW COMB-REVERSING EXTRACTOR** (extracts both sides by reversing machine), ready for the market in March. Also, a full assortment of the best Aplary Supplies cheaper than ever.

☞ Descriptive Catalogue sent free to any address.

W. G. WALTON, Hamilton, Canada.

N. B.—For the convenience of American Bee-Keepers, I have completed arrangements with parties in Buffalo, N. Y., to manufacture my Extractor for the United States. 2-7

This remarkable medicine will cure Spavins, Splint, Curb, Callous, &c., or any enlargement, and will remove the bunch without blistering or causing a sore. No remedy ever discovered equals it for certainty of action in stopping the lameness and removing the bunch. Price $1.00. Send for illustrated circular giving positive proof, and your nearest agent's address. **Kendall's Spavin Cure is sold by Druggists,** or sent by Dr. B. J. Kendall & Co., Enosburg Falls, Vermont.

FULLER & FULLER, 22 Market street, and VAN SCHAACK, STEVENSON & CO., 92 Lake street, Agents, Chicago, Ill. 8y1

APIARIAN SUPPLIES.

As Cheap as the Cheapest,
AND
As Good as the Best!

4¼x4¼ section boxes, per 100, 50c...per 1000...$5 00
Prize boxes,..... " 70c... " ... 6 00

Good Colonies of Italian Bees, in 8-frame Langstroth Hives, in May, $8.00 ; 2 for $15.00 ; 10 and over, $6.00 each ; after May, $1.00 less each colony. Take your choice at the price.

Tested Queens, from Imported Mothers, in May, $3.00 ; after May, $2.00. Untested Queens, in May, $1.50 ; after May, $1.00.

I have had 23 years' experience with bees in Langstroth hives, and 17 with Italian Bees and have been extensively engaged in the bee business for 11 years. I have now nearly 700 colonies. I have manufactured my own supplies for a number of years with steam power ; though I have been engaged in other pursuits. I now intend to make the bee business and its connections a specialty. With my experience, and no other business to look after, I think I will be able to satisfy my customers in every particular.

Comb Foundation manufactured by the pound and on shares.

My facilities for shipping are such that orders can often be filled the same day they are received. To those who may favor me with their patronage, I will try and make it a mutual advantage to us both.

Cash must accompany the order. All my goods warranted.

Cash paid for beeswax. Honey bought and sold.

☞ Price List FREE.

I. S. CROWFOOT,
1-12 Hartford, Wis.

HEADQUARTERS
FOR
EARLY ITALIAN QUEENS.

Imported and Home-bred. Full Colonies and Nucleus Colonies. For quality and purity of stock, it cannot be excelled by any in America.

If you want Queens or Bees, Hives, Extractors, Comb Foundation, Smokers, or Bee Fixtures of any kind, send for my new Circular. Address,

DR. J. P. H. BROWN,
1-6 Augusta, Ga.

Our FLAT BOTTOM
COMB FOUNDATION,

with high sharp side-walls, 10 to 14 feet to the pound, HAS BEEN USED the past season in FULL SIZE SHEETS in Surplus Boxes, adding LARGELY to the YIELD and to MARKET VALUE of the honey.

The wired foundation does not sag, and gives general satisfaction.

Circular and samples free.

This foundation is patented, and no infringements allowed.

J. VAN DEUSEN & SONS,
Sole Manufacturers,
1-6 **Sprout Brook, Mont. Co., N. Y.**

QUEENS! QUEENS!!
GOLDEN ITALIAN QUEENS.

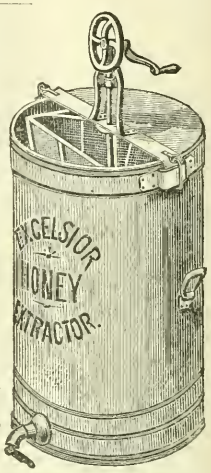
Beautiful, and **good** as the **best**, all bred from **select** Imported and home-bred mothers. One tested Queen, $2.00 ; six for $11.00. One Unwarranted Queen, 80c.; four for $3.00. Sent by mail ; safe arrival guaranteed. Address,

4-7 **T. N. HOLLETT,** Pennsville, Ohio.

COFFINBERRY'S
Excelsior Honey Extractor

Sizes and Prices:

No. 1.—For 2 Langstroth frames, 10x18 inches...$10 00
" 2.—For 2 American Frames, 13x13 inches.... 10 00
" 3.—For 2 frames, 13x20 inches or less 14 00
" 4.—For 3 " " " " 14 00
" 5.—For 4 " " " " 16 00



Having made many improvements in the EXCELSIOR EXTRACTOR for 1880, it is now offered to the Bee-Keepers of America as the MOST PERFECT MACHINE in the MARKET. The universal favor with which the EXCELSIOR EXTRACTOR was received in 1878, has induced other manufacturers to adopt several of its improvements. My experience and experiments of last season, with the assistance and suggestions of skillful workmen, have enabled me to perfect an Extractor that **cannot be excelled, and can only be equaled by being closely imitated.**

Some of its advantages are as follows : It is made entirely of metal, It is light, but has attachments for fastening down to a platform. It can be instantly taken to pieces for cleaning, having no rusty screws to take out or nuts to remove.

The top or cross-band, to which is attached the gearing, is wrought iron, three inches broad, with the ends turned down in such manner as to thoroughly brace and strengthen the can, and hold the basket firmly in an upright position.

The strong over-motion gearing, so necessary to ease in running and speedy operating, was designed and is manufactured expressly for the Excelsior. A child ten years of age can operate the machine as rapidly as it can be supplied with combs.

The Comb Basket having vertical sides, insures the extracting power alike for top and bottom of frames. The sides of the basket being movable and interchangeable, greatly facilitate the operation of dusting before and thoroughly cleaning after use.

It has a small comb-holder for extracting pieces of comb or partly-filled sections.

At the bottom of the can, and below the basket, is a cone or metal standard, in the top of which revolves the bottom pivot of the basket, thereby giving room for sixty or seventy pounds of honey without touching the basket or pivot below.

Nos. 3, 4 and 5, have neatly-fitting covers, movable sliding sides to the baskets, and movable strainers covering the canal to the faucet, whereby all honey can be drawn off without a particle of sediment.

The baskets of Nos. 4 and 5 have no center rod running from top to bottom, which will be found very convenient by those who uncap both sides of the comb before putting in the basket, as they can be turned without removal.

The wire baskets are very neat specimens of skillful workmanship, thoroughly braced at every point where experience has proven it to be most requisite, and nothing has been omitted that could add to its efficiency.

The No. 4, for **three** frames, has a triangular basket, movable sides, no center rod, runs smoothly regardless of number of frames, and is fast superseding the demand for four-sided baskets.

A LOWER PRICED MACHINE

being called for by those having but few colonies, and not making a specialty of bee-keeping, I have made a special size to take the Langstroth frame, and one for the American, to sell at **$10.00** each. These have no covers or strainer, and are smaller than the $14.00 and $16.00 sizes, but for the frames named are equal to the others for effective work, and are the **best cheap Extractors made.**

☞ A liberal discount to dealers.

Address, **C. C. COFFINBERRY,**
Or **American Bee Journal, Chicago, Ill.**

1865.— THE —1880.

HONEY HOUSE.

C. O. PERRINE, 54 Michigan Ave., Chicago.

Will buy at a fair price, for cash, any amount of

COMB OR EXTRACTED HONEY.

As a Manufacturer of

COMB FOUNDATION,

I can say my goods have given entire and universal satisfaction. The ruling low prices were made by me, and any one desiring any considerable quantity would do well to consult me before buying elsewhere.
☞ Market price for Beeswax.

1861.- Nineteenth Year. -1880.

The Original Headquarters

For Italian Queen Bees. Cyprian and Hungarian Queens ready to ship June 20. Our Queens are golden color, and warranted as good as tested ones. Safe arrival guaranteed by mail or express. Price for each Queen, $1.00. Circular free.
4-9 H. ALLEY, Wenham, Mass.

BEES FOR SALE.

I can sell you full colonies of bees with dollar queens in June and July at $4.50, in 10 frame hives, or $4.00 with 8 combs; strong 4 comb nuclei, $3.00; two or more 2 comb nuclei, $2.00; dollar queens. $1.00; 6 for $5.00. My combs are 13¾x11 outside. I will sell a few colonies or nuclei in Langstroth hives at above prices. Best Langstroth hive, with case of 24 sections, $2.00. Safe arrival and satisfaction guaranteed. R. S. BECKTELL,
6-1tp New Buffalo, Berrien Co., Mich.

XX COT (not painted, White Duck) $2.

Painted Red, Brown Canvas and Fancy Bolster, $2.50.
COT FOLDED
XX CANVAS COT
27 IN WIDE
WEIGHT 12 LBS.
MEAS ½ CUB. FT.
Painted Red, Striped Canvas and Fancy Bolster, $3.00.

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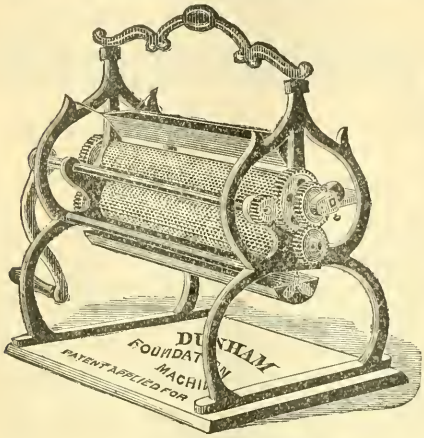

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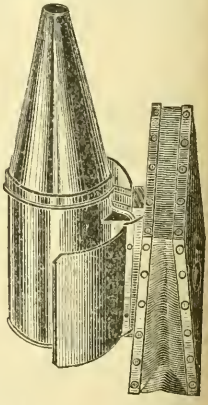

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THE AMERICAN

BEE JOURNAL

Devoted Exclusively to Bee Culture.

Vol. XVI. CHICAGO, ILLINOIS, JUNE, 1880. No. 6.

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Editor's Table.

☞ Tooth ache may be cured by bee stings. So says the Austrian *Bienenvater*, published by Hern Karl Gatter, in Vienna.

☞ The Annual meeting of the American Association of Nurserymen, Florists, Seedsmen and kindred interests, will be held in the Exposition Building, in the city of Chicago, on June 16, 1880, and continue days.

☞ The Cincinnati Industrial Exposition will open Sept. 8 and close Oct. 9, 1880. The National Bee-Keepers' Convention will be held within these two dates, and the indications are that it will be very largely attended.

☞ A doctor in Wisconsin thought he would try glucose for feeding his bees. He fed 6 colonies with the trash, and now not one bee in all the 6 are living. So one of his neighbors reported a few days ago in our office.

☞ From the most reliable accounts from various parts of Los Angeles County, Cal., the loss of bees is estimated to be three-fourths of the stock on hand last season; leaving probably from 5,000 to 6,000 colonies to commence this season's work. Much of the loss was from spring dwindling.

☞ Prof. Marcher, of Prague, Austria, died on Feb. 6, 1880. He was 75 years of age, and made bee culture his study for many of these years. We had a very agreeable visit with him while in Prague last year. He was a very learned and agreeable gentleman, and will be missed by his apiarian associates in Prague.

An Interesting Letter from Palestine.

We have received the following letter from Mr. D. A. Jones, who, as indicated in our last JOURNAL, has been to Jerusalem and the Holy Land, and while there sent this letter to us, for insertion in the BEE JOURNAL. It will be read with more than ordinary interest. He was then southeast of Damascus, near the desert, east of Jordan:

EDITOR AMERICAN BEE JOURNAL: In my last letter from the Island of Cyprus, I promised to write you from Palestine and say what I thought of the bees there. I am so delighted with them, having examined them in various places in Palestine and Syria, that I have sent a telegram to Canada by cable for a large amount of money to enable me to buy and import many queens from different parts of this country. The natives call them "holy bees," and from the long distances I found them from their hives, I think they are endowed with peculiarities not to be found in the bees of America. In some respects they are similar to the Cyprian bees. I think they are a pure race, as they have no means of being mixed with other races. They fly so rapidly that only those laden with honey can be caught on the bloom.

I have bought a large quantity, and am sending them to the coast to be taken to Cyprus, where they will be prepared for their long journey to America with my Cyprians. I procured them from Jerusalum, Bethlehem, the Mount of Olives, and other places in Judea east of the Jordan and Dead Sea; also from Mount Lebanon, Damascus and near the Desert of the North, in order to have a variety and select the best, if there is any difference in them.

I experience great difficulty in getting them to the coast safely, because the earthern tubes and clay cylinders are so easily broken. There are no wagon roads, except from the port of Joppa to Jerusalem and from Beyrout to Damascus, and no vehicles to carry such safely, so I have to convey them on the backs of camels, mules and asses, and the expense and loss is great.

The paths or trails are unfit for travel. Sometimes we find only a few inches between our feet and the brink of a gorge hundreds of feet deep, and rocks projecting out into these paths, so that it requires great skill to prevent breakage and loss. One of the mules walked too closely to these projecting rocks and smashed an earthern tube hive; the bees escaped and attacked the poor animal, and the result was that he soon got rid of the other two hives on his back in a similar manner, and scampered off without load or driver. I was then obliged to get three more and send by another party to supply their places.

If, after testing them when they arrive in Canada, I find them desirable, I have made arrangements to secure enough to supply any demand that may arise. I will report the results of my investigation and the tests made, in due time in the BEE JOURNAL.

D. A. JONES.

Venus Fly Trap.—Mr. R. C. Taylor, Wilmington, N. C., has sent us two sample plants of *Dionca Muscipula*, or "Venus Fly Trap," and says: "This is a very interesting plant indeed, and grows only in the eastern part of this State, in vicinity of swamps, etc. During the summer it throws up spikelets of very pretty, white flowers; the ends of the leaves are formed like a rat-trap, and the plant, being very sensitive, closes on any insect that touches it, and remains closed until the prisoner insect dies, when it again opens. This plant has been shipped largely to Europe, where it created a very considerable interest. Many claim that the plant *digests* the juices of the insect prisoners it catches, and thrives thereon amazingly. Plant in medium damp and shady place in box or otherwise. It is easy to live." Mr. Taylor has our thanks for the plants. They are very interesting. We have them planted, and shall watch them with much pleasure.

☞ The Rev. Rufus Morgan, who moved from North Carolina to California, a little over a year ago, died on the 5th of April. On his way to California he called on us, and we spent some time with him very pleasantly. He was poisoned by eating some mushrooms which he had gathered (some of them being of the poisonous kind). A good man has fallen in the prime of life. He leaves a wife and two small children to mourn his loss.

☞ The Department of Agriculture for the State of Kansas has issued for free distribution an edition of the abridged report of the first biennial, a book of 450 pages. We have received a copy, and find it very interesting to those who are desirous of learning official facts regarding that State; it is very complete and exhaustive. Any one can obtain this work by sending 20 cents for postage to J. K. Hudson, Secretary of the Department of Agriculture, Topeka, Kan.

☞ Our attention has been called to some party or parties, claiming to have and offering for sale, a recipe for the purpose of bleaching out old black honey comb, making it as good as new, etc. These parties claimed to have learned this valuable (?) secret while attending an apiary school in Ohio. There is no such school in Ohio nor any other State. Leave them and their valuable recipe severely alone.—*Indiana Farmer.*

District Convention.—"Shall we have a District Convention?" is the question now propounded to us by bee-keepers living near Chicago. Mr. A. Rice, President of the Rock River Valley (Ill.) Association, writes as follows:

Byron, Ill., May 19, 1880.

DEAR MR. NEWMAN: In company with quite a number from this section I attended the meeting of the National Convention at Chicago. That meeting was so profitable and pleasant that we believe a District Convention should be held in Chicago, each year, during the time of the Chicago Exposition, when cheap fares can be obtained on all the railroads. This would give bee-keepers a chance to attend both at a single expense—and that a very small one. Shall we have one? A. RICE.

We certainly have no objection; and to test the matter we invite bee-keepers in the surrounding country to give us their views of the propriety of this undertaking. Those who would attend and become members of this association will please write us at once, stating what time will be preferred, if such is to be held.

☞Mr. Geo. L. Perry, a breeder of Italian bees and supply dealer in Lansing, Mich., has named his apiary of about 100 colonies the "Globe," but why we cannot tell. Lansing is a nice town, but is neither the "hub" of the globe nor the globe itself! but Mr. Perry is a wide awake and progressive apiarist.

Libel Suit.—The *Indiana Farmer* has the following item:

One N. C. Mitchell, this city, has entered suit against us for libel, claiming damage in the sum of $5,000 for asserting that he is humbugging the people by selling as his patent bee-hive an article which is public property. As we made this assertion solely for the benefit of our readers and to protect them from fraud, we call upon all who have had dealings with Mitchell, or his agents, to write us briefly in regard to the claims they have made, the kind of hive they offer to sell, whether or not it is the same as that described on the second column of page 2 in this number, and any information they may possess regarding the character of Mitchell and his manner of doing business. Please send in these statements at once. Our contemporaries, especially those publishing bee journals, will confer a favor upon us by sending us promptly any information in their possession having a bearing upon the case.

Any of our readers who have cause to complain of Mr. Mitchell or his agents in this matter, should write to the *Indiana Farmer* at Indianapolis, Ind., at once.

Another Queen Cage.—Mr. S. J. McKinney, of Burlington, Iowa, has sent us another queen cage, and says: "I think it is good for introducing or shipping queens. The cylinder is to be filled with a sponge saturated with honey and water; the tin shield is to be used only in shipping a long distance. I think upon examination you will find it a good cage for transportation of queens." It is ingenious, and will do for introducing and shipping by express, but will not do for mailing, honey and water both being unmailable. We have added it to our museum.

Honey Plant.—Mr. R. C. Taylor, Wilmington, N. C., says: "I send sample of flower, leaf, etc., of shrub growing near my garden, close to swamp. I counted 1,000 blooms on it, and there were from 4 to 12 bees on every spikelet of flowers. Please give name, etc., as to what it may amount to for bees." Prof. Cook notices this plant as follows: Prof. Beal kindly informs me that this is one of the lead-plants. It is *Amorpha fruticosa*. It is a leguminous plant, and is widely distributed through our country.

Glucose from Rags.—The *Revue Industrielle* states that a German manufactory is turning out over a ton a day of glucose made from old linen rags. These rags, which are composed of hard vegetable fibers, are treated with sulphuric acid, which converts them into dextrine. The latter product thus obtained undergoes a washing with milk of lime, and is then treated with a fresh supply of acid stronger than the former, when the mass is at once transformed and crystallizes into glucose, of which confections, honey and jelly may be made. The process is said to be a very cheap one, and the glucose chemically identical with grape sugar. A strong outcry, however, has arisen against the manufacture of grape sugar from rags, and the enterprise is understood to be in danger of being interfered with by the German government.

New Catalogues Received.—We acknowledge the receipt of the following catalogues and price lists for apiarian supplies: O. H. Townsend, Hubbardston, Mich.; Jas. A. Nelson, Wyandotte, Kan.; Ashton, Jones & Walton, Muscatine, Iowa; A. E. Manum, Bristol, Vt.; Lewis A. Best, Best's, Lehigh County, Pa.

Salisbury's Queen Cage.—On May 4 the Rev. A. Salisbury sent us a very little queen cage, 1¾ in. square and 1 in. thick; the chamber for bees being a round hole ⅜ in. deep and of 1⅛ in. diameter. A piece of wire cloth pressed down into the chamber ¼ in. covered by another piece on the flat surface; leaving the ¼ in. space, made it according to the requirements of the law. But, as the small chamber was then diminished to ⅝x1⅛ in. for the food and bees, of course the bees were every one dead when received—pretty, but dead—the cage answering the law, but the bees had "passed away."

On the cage Mr. S. had written this: "What have you to say now, doubting Thomas?" This subjected the package to double letter postage, as it was a private letter.

"Doubting Thomas" answers that a *humane* man should not confine his bees in so small a prison as to cause death when he desires to transport them to other "pastures green."

"Doubting Thomas" thinks that it should be generally known that anything (other than the address) written on a package of goods, subjects the whole to double letter postage at its destination.

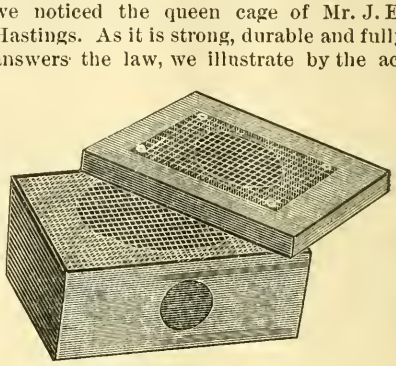
Looking the ground all over, "Thomas" is quite satisfied with his "doubts," when he sees how the over credulous ones get into trouble.

Propolis.—Mr. M. Spaulding, West Creek, Ind., asks us to state in the BEE JOURNAL what effect propolis has on wax when melted with it. The wax will rise to the top, and the propolis and dirt will be found at the bottom of the kettle.

Honey Dew, Etc.—Mr. W. J. Willard, Jonesboro, Ill., sends us some plants, and describes them as follows:

I send you some of the flowers which are now supplying the honey and constitute our main crop; also some of the ornamental flowers now in bloom here. I also inclose a bunch of the peach leaves which are producing "honey dew." All the honey dew I have ever noticed on the grass, leaves, etc., I have been able to trace to the aphides; that which I found produced by the leaves and flowers was never scattered about promiscuously; it remained where it was born. I have learned just enough of the sciences and of practical life to feel that any man who bases his assertions on one or two observations is injuring the cause of bee-keeping, and making a fool of himself.

Hastings' Queen Cage.—On page 214 of the last number of the BEE JOURNAL, we noticed the queen cage of Mr. J. E. Hastings. As it is strong, durable and fully answers the law, we illustrate by the ac-



companying engraving. We shall keep them on hand, and can furnish at the shortest notice. See prices on page 303. They are not provisioned, but there is a small augur hole to contain candy, so arranged that the food cannot interfere with the bees.

The "nails" are left loose, so that the shipper can draw 3 out (the ones left up) and swing the top around and put in the candy. There is no tack over the candy-pocket.

☞Mr. F. W. Chapman uses peat for smoker fuel, and it "works like a charm."

☞On account of so much space being used this month with convention reports, we have had to contract our editorial space considerably. These reports are very interesting, and will pay for a thorough perusal.

Felt Blankets.—We have used very successfully for a warm covering for brood frames, blankets cut from woolen webbing after having been used in paper mills. They make a very warm cover, and keep the bees very comfortable in winter. We have secured a lot of such, and furnish those who desire them for 5c a blanket; or when 50 or more are wanted for 4c each.

☞We spent a short time at Mr. H. H. Everton's, near Monroe, Ill., while attending the Convention at Davis Junction. He is a whole-souled gentleman, and, with his lady, entertained us right royally. We were much pleased with the intelligence and enterprise of the members of the Rock River Valley Association.

Letter Drawer.

Hokah, Minn., May 7, 1880.

My bees are doing splendidly, having wintered without loss, while others here have lost on an average one-third. They have been building comb since May 1, and I have 1 colony working in boxes.

W. Lossing.

Callicoon, N. Y., May 5, 1880.

Apple blossoms are opening. My 80 odd colonies reveal 5 starved or queenless; others are all well, and breeding finely; no disease exists anywhere in my apiary; all wintered on summer stands; I think I am safe in saying "I'm out of the woods" for 1880.

A. E. Wenzel.

Lincoln, Neb., April 17, 1880.

Bees in most parts of Nebraska have not wintered well, owing to the poor honey harvest last fall, and the weather during winter being so pleasant, they consumed more stores than usual, Those who have wintered in good cellars have met with but little loss. A number of bee-keepers here are using the one-piece sections. They are very nice and strong when put together, and are cheap. Geo. M. Hawley.

Richmond, Iowa, April 19, 1880.

There are a good many bee-keepers in this section, but many let Providence care for them through the winter season. I have learned that many of them have lost the most of their bees. There are not very many Italian bees here yet. I saw in the *Bee-Keepers' Magazine* a plan for wintering bees; my neighbor and myself tried it this winter, and we both wintered successfully, not losing a colony, and the bees are good and strong. It is Mr. Hosmer, first and last, by Mr. King's plan. J. O. Todd.

Houston, Minn., April 29, 1880.

From the 1st of last August until the time of going into winter quarters, bees reared but little brood, and from the 1st of October I do not think there was an average of a half lb. of brood to the colony anywhere in the southern part of Minnesota. From the middle of October till the time mine were put into the cellar, about the middle of November, I think there was not 1 pound of brood in my whole apiary of 50 colonies, but there were large quantities of old bees. This spring when I put them on their summer stands, I found 4 colonies dead, and some weak and queenless, and, after looking them over and putting them in as good condition as I could by doubling, I lost about 20 per cent. of colonies, and I should think about 50 per cent. of bees. Some, however, are now strong in bees, with plenty of honey, while others are weak and will have to be fed. I have heard from nearly every apiary within 20 miles and talked with many apiarists; they have lost on an average about three-fourths of their entire stock of bees. Nelson Perkins.

Stockbridge, Wis., April 26, 1880.

I put 45 colonies into the cellar last fall; I lost 4, the rest are in good condition. The season has been rather cold and backward. J. H. Davis.

Ovid, N. Y., May 1, 1880.

I commenced the season of 1879 with three weak colonies, and worked them on the Hosmer plan, feeding in the spring until honey was abundant, and using double hives until 3,500 cubic inches were filled with brood. In this way I increased to 16, and obtained 500 lbs. of extracted honey. I wintered in the cellar, putting in 13 good colonies (5 blacks and 8 Italians). The Italians came out strong in numbers, but the blacks all died but one. Z. D. Scott.

Middlecreek, Pa., May 5, 1880.

I transferred a colony of bees from a large pine tree with unexpected success. Having cut the tree down, I stopped up the hole or entrance, then I smoked them, after which I cut it open and took out the combs, putting them into frames; then I drove the bees into the hive by smoking them, and they are working very finely. I noticed that the bees in one of my box hives, after a wet day, rolled out of the hive, tossing about, not able to fly, and in a short time died. I did not know the cause of all this; so transferred, and found no honey but plenty of brood; there were only about a gill of bees left. I placed some honey in the hive, but was unfortunate in losing the queen, and the remaining few bees died. The same day I tried another; drove the bees into a box, took the hive with comb into a room and transferred the comb, but when I came to getting the bees in I found that they were all getting into a neighboring hive, outside of which, on the next morning, I found the queen dead. I now have that strong or double colony in a movable comb hive, busy at work. I also transferred 2 other colonies successfully, according to your plan. I am pleased with your little book "Bee Culture;" also with "Cook's Manual." H. Wilson Ulsh.

Palestine, Ind., April 12, 1880.

Bees that were properly packed in the fall came through the winter in good condition. I have not lost one colony yet. I wintered 50 colonies in the cellar; the rest on the summer stands. Owing to the shortness of the honey crop last fall, many in this vicinity have died of starvation. Some of mine are light. I have plenty of honey to feed.

M. E. Loehr.

Iberia Parish, La., April 22, 1880.

I moved my bees from St. James Parish, La., by steamer around by the Atchafalia River. My 21 colonies came through in fine condition. They have increased by dividing and natural swarms to 30. This seems to be a fine locality for them, as they have been steadily at work since their arrival, Feb. 6. Only 1 colony is pure Italian; the rest are large gray bees. They are very docile and easy to handle. I captured a swarm some 5 years ago, and have increased them to 20. The marsh around Spanish Lake (near me) is filled with flowers. I see bees visiting them in abundance. I have buckwheat planted, and will try that in this climate; it is up and looks fine and thrifty.

W. R. Thompson.

Wartham, Cal., April 10, 1880.

We are nicely located in the foot hills east of the plains, some 25 to 30 miles, or in fact we are on the coast range, on the side sloping toward the San Joaquin. Our apiary is on a nice flat of some 12 acres, surrounded with hills which are covered with sage, buckwheat, honey suckle, honey vine, deer brush, bear berry, and all kinds of wild bloom, while the level land produces in abundance clover, philaree, etc., and a live stream of water runs within a rod or two of our bees. The past season, from Dec. 1, 1879, to April 1, 1880, has been a severe season on bees; the time between the dates named has been unusually cold; frost every night, except when raining. The loss in some localities has been very large; for the past week the weather has been all that could be desired, warm and fine, and at present the bees are rearing brood and gathering pollen and honey from the philaree, which is now coming into bloom. Bees do well here in good seasons, and will average in surplus honey per colony from 75 to 100 lbs., and many put up from 100 to 175 lbs., and some colonies have stored in section boxes 250 lbs. The honey is of the very best quality—clear, white, thick, and ropy; when put up in nice section boxes, will bring the highest market price; and, could we only escape these dry years, California could supply the world with honey. The season is fully one month late, and, owing to heavy frosts, the early bloom, such as wild gooseberry, mansanetta and cottonwood was a failure, but if the season from now on is favorable, a large amount of honey will be stored. We think the American Bee Journal is the best paper published upon bee culture; as a book of reference it is very valuable. Besides it treats upon bees without mixing in psalms, hymns and prayers, and so subscribers get just what they pay for. Both bees and religion are good, in their proper places, but they do not mix at all; and many of those who are now trying to mix them will in time admit the same to be a failure.

Bray & Seacord.

Wisconsin, April 19, 1880.

I noticed that one of your correspondents in 1878, desired to know how to prevent thieves from disturbing his bees or stealing honey from the hives. Having lately attempted to climb or crawl through a barbed wire fence of only two wires, I have come to the conclusion that if his apiary is surrounded by a barbed wire fence of, say 5 wires, having gates on each side, through which swarms may be followed, each connected with an alarm by wires, to be hooked on at night, and so arranged as to swing shut and fasten themselves by hidden spring-catches, any person entering the apiary, not in the secret of the alarm and hidden spring-catches, would be nicely trapped; and, if in his hurry to escape, he tried to climb or get through that wire fence, with a big dog behind him, and a pistol shot or two over his head from the window, he would be sufficiently punished without further prosecution. Among the great variety of feeders described in the Journal (if you deem it worthy) I will describe mine. I use the Langstroth frame, bottom and side-pieces of equal width; with tacks or brads I nail one of my section division strips on each side of the frame, which makes, with the bottom piece of the frame, a cup or box about 3 inches deep and ⅞ inch wide, to be filled and hung in the hive. By putting in an extra bottom piece, so that the top of the box will come near the top of the frame, it can be filled without being taken from the hive. If it leaks, wax the joints. No patent on either the feeder or fence, or any combination of the fence, big dog and pistol, or of the spring-catches and alarm, or any other thing any man's ingenuity may connect with the arrangement, so far as I am concerned.

Claud Hopper, Jr.

Crawfish Springs, Ga., April 23, 1880.

Bees wintered very well on summer stands the past winter. They are gathering honey from apple trees and white clover—the latter is just coming into bloom. The colonies are generally strong, and some are swarming; we have had several up to date, which is considered rather early for this country. We have taken colonies of blacks to Italianize on shares for a neighbor. Not much attention is given bee culture here. Many still use log gums, and cling to the old fogy notions of their ancestors; some few are reading the bee papers, and adopting movable frame hives, and seeking the yellow-banded bees. We are thankful that we are again to have the use of the mails for carrying queens. We hope all bee-keepers will heed your admonitions to not abuse this privilege.

J. T. Scott & Bro.

Shawano, Wis., April 16, 1880.

The wintering of bees has been disastrous here. Some have lost ½, others ⅓. I lost none for 4 years. Last winter I had 20 colonies on the summer stands and 18 in a cellar, and have lost but 1; they were not out of cellar from Nov. 1 till March 15; then they had a flight and were put back till April 13; now they are on summer stands, and bringing in pollen. To-day we have a snow storm. My success is due more to my hives and care than to anything else. I use the regular Langstroth frame, 9¼x 17½ in. outside. My brood chamber is made of clean rye straw, standing perpendicular all around and about 2 in. thick; you may think that these walls are soft, but they are not; the straw is pressed on a machine of my own construction, and is as even as a planed board, except the No. 26 brass wire running over and through the same. I do not make these hives for sale, but it may be that some of my friends may be benefitted by this description. Prof. A. J. Cook says in the American Bee Journal for October, 1879, page 460, under "Hints on Wintering Bees:" "I have already spoken of dry cellars and absorbents above the bees. Could our hives be so constructed as to secure a good absorbing surface entirely around the brood chamber, it would doubtless be an advantage." Well spoken, friend Cook; it has satisfied me for 5 years. With a good woolen quilt over them and 8 inches chaff and cover, I am not alarmed about my bees dying out unprotected; but, as usual, I put a rough box, the same as Prof. Cook has described, with 4 inches chaff stuffed all around, and the portico filled with loss comes heavily on him, as he had in-chaff 4x½ inches. Entry left open for the bees. I can warrant every good colony during winter without looking after them. At snow-fall I throw an armful of loose straw at the entrance, and clear away when warm enough to fly. That is my way of wintering successfully; and my bees use less stores in winter, and may be housed and confined to their hives for many months without their health being impaired and dwindling down to nothing in the spring.

H. Klosterman.

Downsville, Wis., May 3, 1880.

Two-thirds of the bees in this part of our State died during last winter and this spring. I lost 6 colonies out of 62, the first loss I ever had in wintering. My bees last year commenced swarming on May 15, and I think they will this year, for drones are hatching in several hives. I fed rye meal and syrup very early.

A. J. Tibbetts.

Lettsville, Iowa, April 29, 1880.

My bees are doing finely, gathering pollen and breeding very fast. I began last spring with 1 colony of Italians, increasing to 3, and obtained 25 lbs. of very fine comb honey. I use the Langstroth hive, and expect to increase my bees to 12 colonies this summer by dividing, which I think is more preferable than allowing them to swarm. I wintered in the cellar, with the caps off and open in front. My cellar is tiled and cemented on the bottom and sides, with a partition through the center, and it is quite dark and well ventilated, with the thermometer ranging from 35° to 45°. I took them out for flights in February and March, and each time they appeared to be in good condition. They are now on their summer stands, with plenty of honey and doing well.

Geo. W. Dodder.

Hastings, Minn., April 24, 1880.

We are meeting with severe losses of bees in this section. Mr. Morse has lost his entire apiary in the last four years; he has bought and taken on shares over 100 colonies. I think foul brood has had something to do with his losses. Rev. A. Telford commenced last spring with 40 colonies, and increased during the season to 84; he fed during the fall 300 lbs. of sugar; he has lost heavily; he thinks now that he will save 8 colonies in a very weak condition; he thinks foul brood has been one cause of his severe losses; I assisted him last spring in purchasing 36 or 38 colonies, which were then in very good condition. The

vested nearly all his means in the business, and is so broken down in health that he is not now able to preach for a living. Rev. S. Barteau has lost his entire stock or nearly so; he had about 60 colonies last fall. Others, having from 2 to 10 or 12 colonies, have lost all or nearly all of them. I think I shall have 15 to 18, out of over 60 colonies last fall. I think the losses through the State have been heavy; still some localities report but small losses. I think we will not be overstocked with bees this season. WM. DYER.

Napoleon, O., May 3, 1880.

My 42 colonies came through the winter all right without loss. I think I can winter bees as safely as I can sheep.

G. W. ZIMMERMAN.

Poplar Bluff, Mo., May 4, 1880.

My bees are all in fine condition; gathering honey from poplar and white clover. Of the latter I have a very large amount. I lost a few colonies in wintering, as I had many old bees in the fall, and they died before rearing much brood. I fed and stimulated 6 colonies last fall, and these were very strong in the spring, having been stimulated to rear brood then, and thus they had young bees to go into winter quarters with. I have now about 165 colonies. There was much loss in bees all around me; they died for want of care. Hereafter I shall call on you for all my supplies. I find hand manufacturing too expensive, and I shall give it up. Machine manufactured articles are much the best and cheapest.

W. N. CRAVEN.

Otley, Ia., April 29, 1880.

Last season here averaged very poorly. White clover was fair, but basswood was cut short by the extreme drouth. By partly preventing swarming and returning swarms, I managed to secure about half a crop of honey—1,100 lbs. of comb and 1,700 lbs of extracted. I sold the latter at an average price of 11½; comb from 18 to 20 cents, mostly at 20c. The fall harvest, which we generally consider the best, was an entire failure for surplus honey, and almost for any kind. It was very dry until about the 8th of August, when we had a heavy rain, after which flowers came out quite profusely, but seemed to be destitute of honey. I think we never experienced such a fall before, and I hope not again to see such soon. I am a lover of my profession, and have been since a boy, but such a season as the latter part of last year would discourage the most sanguine. I put my bees into winter quarters about the last of November and took them out from April 5 to 13. I wintered in the cellar, and had good success. Out of 135 colonies we lost but 2, and a few weak ones since putting them out. We still have a goodly number left to commence the season with. The dead bees are not so much loss, as we still have the hives and comb. I think that the JOURNAL, Cook's Manual, and Bingham's smoker are 3 essential things to an apiarist, and I think no person intending to make apiculture a success can afford to be without them, should they cost twice the money. W. C. NUTT.

Eminence, Ky., May 15, 1880.

We have had for the past 3 days cool east winds, with a good flow of honey from our poplar, locust and white clover for a few days preceding. Some swarms are already reported in this locality. E. DRANE.

Carlisle, Iowa, May 13, 1880.

In this locality white clover is a failure this year. It was nearly all killed through the winter, and what comes from the seed will be late, though we may expect some honey from it by the last of July. Last year we had a "sea" of "white heads" spreading everywhere. J. E. HASTINGS.

Milledgeville, Ill., May 18, 1880.

I was sorry to see the course taken by the last Northeastern Convention. I sincerely hope it will not permit any more of such rashness in its proceedings. We, as bee-keepers of America, should not allow such matters to mar our friendly feelings towards one another; we should act as a band of brothers—East, West, North and South. Success to the AMERICAN BEE JOURNAL.

F. A. SNELL.

Ashland, Mo., May 10, 1880.

The spring has been hard on bees here where neglected, but with proper care and attention they are in fine condition. Mine have recruited up finely, without any dwindling. My apiary of 112 colonies will be ready for the honey when it comes. Nine-tenths, or more, of the black bees are dead, and about 10 per cent of the Italians; a few apiaries of Italians are nearly all dead, but it is owing to inferior stock and bad management. The best way to improve the Italian bee is to purchase queens from parties who are known to be always successful; test them thoroughly, and select the best queen, or the two best if they are nearly equal—then rear all from the best, and have them mate

with her drones or those reared from her daughters. If you have another queen of equal merit, it might be best to use her drones. My queens are all the offspring of a single queen, after having tried queens from several parties; with the present stock of bees I do not raise one inferior queen in a hundred, therefore my bees all winter well; all get honey, if there is any to be had, and I have no spring dwindling, as they seldom leave their hives when it is too cold for them to return. If all bee-keepers would pursue the same course, there would be less complaint in the future about bad seasons and cold winters.

E. C. L. LARCH.

Henderson Co., Ky., May 6, 1880.

I had a colony of bees swarm out on Jan. 2, and another on Feb. 25. Both had queens, eggs and brood, and the combs were all sweet and nice. What was the cause? J. J. QUINN.

[It is a case of abnormal swarming, for which no definite reasons can be given.—ED.]

Fort Calhoun, Neb., May 2, 1880.

My bees wintered well out of doors. I put the hives close, and packed hay on the sides and backs, and banked up the backs with dirt, a broad board being set up in front. My hives are double-walled German. Last fall I had 15 strong and 1 weak colonies; the weak one I kept in the cellar. I have lost 3 (2 were queenless and 1 was robbed). Bees are doing well on fruit bloom.

H. T. ROSENBAUM.

Winchester, Ill., May 8, 1880.

Like Mr. Heddon, I did not want to whistle till I was out of the woods, or bees fairly out of the winter, at any rate. Out of 32 colonies I have lost 5; 4 starved, and one was robbed out in March. Another came through queenless, but with a fertile worker in it; I gave them 2 frames of Italian brood, and a week ago to-day I found a queen just hatched. There are so few drones flying yet that I fear she will be a drone layer. I wintered on summer stands, with chaff and saw dust packing, or in double-walled hives, and in nearly every hive there was more or less mold on the combs. The drouth last fall thinned out the white clover greatly, but it has come up thickly from the seed, and with copious rains there will be plenty of it; still, on account of the backward condition of the bees, we expect a moderate yield, however good the season may be. WM. CAMM.

Walton, Ky., May 14, 1880.

The most of our bees came through the winter, but with very little honey left in the spring. Spring dwindling was very prevalent during a part of April. When fruit trees bloomed they did very well for about 10 days, but a heavy fall of rain the latter part of April washed all the honey out of the blossoms, and they have done nothing since. The white clover is just coming into bloom, but the weather is very dry and cool, and, unless we have rain soon, I fear our honey harvest will be quite meager. I have lately received two fine queens from Rev. A. Salisbury, which are real beauties. I have 25 colonies, all Italians, and hope to be able to report favorably next month. Success to the AMERICAN BEE JOURNAL. I cannot do without it as long as I keep bees.

L. JOHNSON.

Quitman, Ga., May 12, 1880.

I hope the BEE JOURNAL will have that continued success which it meritoriously deserves. I am glad to see how well you fight when attacked. I think the Northeastern Convention has scared up the wrong man. Our bees through this section are generally doing well, though the moth has been worse this season than usual. I have purchased some comb foundation, and find that my bees do not take to it very well; in some hives they refuse to have anything to do with it. This is mostly the blacks, the Italians generally accepting it. The blacks are more self-dependent and prefer their own make to any other kind? I have a colony with not a single drone, nor is there any drone brood. Can you tell me the cause? The bees work well, and have a good supply of honey on hand. J. H. MCCALL.

[There is probably an abundance of room in the hive, and no cause to make preparations for swarming.—ED.]

Dundee, Ill., May 20, 1880.

Your remarks following my letter on page 245 of the May No., do me injustice, as I have had no black bees for years, neither are there any in this township. I had a fine strain of Italians from Oatman's apiary, but wishing something finer, I purchased the imported queens, and the result is, I have the handsomest bees I ever saw. They have broad yellow bands clear down to the tip. E. J. GOULD.

[We received the impression that Mr. Gould's bees were natives, which he wished to Italianize, but of course stand corrected.—ED.]

Correspondence.

For the American Bee Journal.

What I Know About Supply Dealing.

JAMES HEDDON.

Last month I promised to tell you what I know about supply dealing. I am so busy that I can hardly think of half of it, and the whole would not make a very large book.

Some have asked me why I withdrew from the field this season; and here let me say that poor health was the main reason. One can much more easily carry on a trade in any class of goods that are more fixed or uniform.

I wish to speak of the practice of warranting safe arrival of goods in our line. I guess the practice grew out of the newness of the class of goods to be shipped. Bees more particularly. It is amply demonstrated that a colony of bees (properly put up) are more apt to reach their destination safely than a box of oranges. Does any one know a class of commercial men who warrant safe arrival? There is every reason why no such warrant should ever be given. We all know that fire, smash ups, or very malicious handling may damage any kind of freight. In such cases the transportation company is responsible, and they know enough to pay right up without any trouble that will advertise the matter. Now who do they owe? They owe the consignee, and not the shipper. His receipt says he delivered the goods in good shipping condition, to all appearances, and the company are in no way responsible to him nor he to them or the consignee, and the *only* party who can reasonably *ask* for damage is the consignee, and the only party who is in the least responsible is the one at fault. If it should so happen that the shipper did not deliver the goods in good shipping condition (as his receipt says he did), then he should be held partially or wholly responsible, as the case may be, and to the company.

In regard to "cash with the order," that is the proper way to do our business, where we are so unacquainted, and not in the regular commercial field. It saves book-keeping, and leaves no opportunity for the confidence man. On the other hand, the purchaser should have some satisfactory evidence that the dealer is good for the amount sent, so that if any altercation ensues wherein the purchaser is liable to be wronged, he can squeeze his due out of the dealer by law.

A perusal of the different commercial reporters will show you that a man is "good," "fair," or "worthless," almost in exact proportion to what can be forced from him by law. This fact is not exactly intended to eulogize our present civilization, but I am not inclined to run around truth, whether it is agreeable or not. It is pleasant to feel that all our brothers (sons of Adam) are honest, but if you indulge this feeling too much, you may have to put up with the feelings of hunger.

"It takes a rogue to catch a rogue" is an old adage, but notwithstanding that, I do not believe it is strictly necessary for a man to be "either a fool or a knave;" in other words, it is highly possible to be honest without taking every one else to be.

There seems to be something peculiar enough about us as a class to cause some to rub their eyes and inquire: "Are bee-keepers more dishonest than others, as a class?" Well, I should not wonder if they were, for very many have been lured into the business by the "gushers," who told them that great returns for little outlay, labor and knowledge, were there. Such "talk" naturally catches the lazy dead-beat.

In regard to prices of the different articles kept by supply dealers, one can tell nothing about who gives the most for the money by reading descriptions and prices in their circulars. A hive is sold by one all complete for, say, $3. By another do. for $1. Both claim to be the best, and one is described as worthy as the other. These descriptions use adjectives that are all comparative, and really convey no meaning at all. It is quite likely that the $3 man gives the most for the money, and realizes the smallest profit. A pine candle box can be had for 1 shilling; a cross between this and a bee hive is easily sold at "60c in the flat." I heard a party say that he sent for some cheap hives in the flat, and large, black, pine knots dropped out as he handled the pieces. I have the pleasure of an acquaintance with the man who shipped this worthless material, and I believe him honest, too, but you see he used just such trash, and if this lot was not quite so bad as some he kept at home, his circular would pronounce it "the best."

Last evening I took a circular from the office chock full of Novice's cuts, and offering for sale nearly everything in our line, and yet the party makes but one article mentioned. Verily this place is not "Headquarters" for much of anything, is it? I have been a little surprised at the way a gushing, pretentious circular would catch customers. I did

not think there were so many "green 'uns."

One bee-keeper of this State who visited me, and who is a more than ordinarily shrewd man, showed me one of these *loving* circulars, and said: "I guess I won't patronize this fellow. My wife (who is the smartest man in the family) says he 'loves' us too much for a stranger."

Now, I am inclined to think that the main trouble with our business and us as a class, that causes such questions as "Are bee-keepers more dishonest than others?" to find their way to the "question drawer," is because we are not inclined to look this business squarely in the face, and realize the fact that we must expect to *earn* our money like other producers, and do our business upon common commercial principles. Take up a bee periodical and read it and one would be led to think that apiculture was the very best business in existence. The same nonsense is to be found in horticultural and poultry journals of their respective callings. The solid old agricultural papers make no such claims, and yet it is their calling that has less failures, and more fine houses to boast, than any other business in existence.

This puts me in mind of another thought, and that is one now agitating some New York bee-keepers, whether an editor has any right to reject articles, cull, prune, etc. I see it something like this: If his paper runs down in quality *who* is blamed? If subscribers fall off who is the loser? In view of the fact that these questions answer themselves, it seems to me that it is his duty to his family and himself to keep his paper up to as high a standard as he can. I don't want to take a paper that contains the shucks and meats all mixed up, and without any culling. I am always willing to concede to others what I ask for myself (or at least I should be), and I cannot object to your rejecting this article, Mr. Editor, as long as I want you to keep out that senseless article of John Smith's. When I think you reject any from personal motives alone, then I will quit your paper. In my judgment, he who undertakes to hold up the claim that an editor has no moral right to control his sheet just as he thinks proper, will meet with an ignominious failure.

I wish to say a word for the ears of the editor of *Gleanings*. He seems to have entirely forgotten the wants of his older subscribers, who helped to start the machine, and only thinks of the "A B C class." This is what I allude to: Old bee-keepers are not too old to learn, but they are capable of passing judgment on certain theories for themselves. Very many articles are not worth reading, and what they most need is their journal so well arranged that they can quickly cull out the weaker portion from the stronger, or perhaps those articles pertaining to more advanced subjects, in which they feel more interest and need more light. *Gleanings* is so arranged that it is just about a *necessity* to read lots of trash in order to get at the points sought after, that it may contain. "Order is heaven's first law," says Pope, and if this is really true, *Gleanings* will never get there, even if its editor is sure of a sofa seat.

Dowagiac, Mich., May 8, 1880.

For the American Bee Journal.

Where Honey Comes From—No. 4.

WM. TRELEASE.

In many parts of the South is cultivated a plant known as *cow-pea*, and it is generally known among planters that bees and other nectar-loving insects "suck the stems" of these plants; that is, they collect nectar or some other fluid from certain parts of the plant.

As it commonly grows, the leafy stem of this plant trails along the ground, and

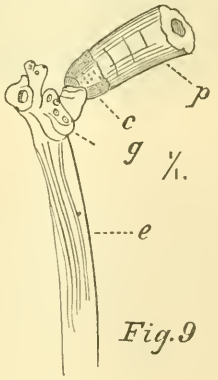


Fig. 9

here and there from the axils or angles above the leaves a flower stalk grows upward and bears a cluster of blossoms near its top, and it is the end of this flower stalk that the bees visit, but they do not go there for the flowers. An examination of a peduncle shows that among the flowers or pods, and just beyond the last one, there are several rounded prominences (g fig. 9), on the surface of which a number of depressions may be detected. Under a lens each of these appears a hollow,

from the center of which rises a small point pierced with a pore at its summit; and at certain times the cavity is more or less filled with fluid. This is the nectar which attracts bees to the plant.

Figure 10 represents a section of one of the knobs (g fig. 1) perpendicular to its surface and passing through the middle of one of the cavities just described. At *a* is the opening or pore, lined for a short distance by a prolongation of the epidermis or skin (1) which covers the surface of the entire organ. Beneath the surface the tissues are considerably differentiated. A dense hollow cone, made up of elongated cells, with very granular contents (g), runs up to the bottom of the pore *d*, and forms the secreting part of the organ—the gland

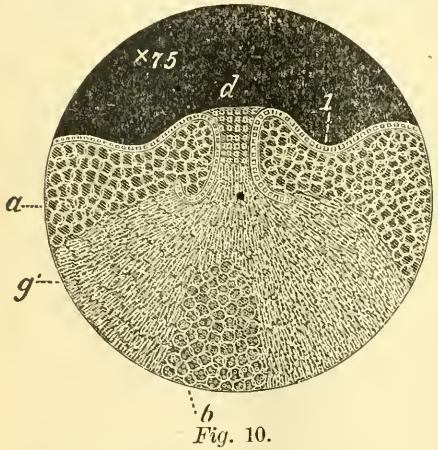


Fig. 10.

proper. Between this and the epidermis, and separated from the former by a thin layer of elongated, obliquely set cells, is a mass (a) of rounded cells, with slightly granular contents, and in the center of the cone formed by g' is a tissue composed of rounded cells, which contain a considerable amount of starch in the form of very fine grains. At some little distance below the surface the tissue g' thins out and *a* and *b* come together so that more or less starch is to be found in the former, and it is difficult to define their respective limits, while intermingled with their cells are a considerable number of spiral and dotted cells passing off into the vascular tissue of the peduncle.

In all the cases we have hitherto considered, the secreting part of the gland has been on the surface—a modification of the epidermis; but here a deep tissue takes on the same function, discharging its secretion through a pore (formed by a break in the epidermal covering) into a shallow cup, whence it is readily collected by the bees or other insects which are attracted by it.

For the American Bee Journal.

Queens Duplicating Themselves.

D. A. PIKE.

The May number of the AMERICAN BEE JOURNAL contains an article from Mr. A. F. Moon in reply to my acceptance of the proposition made by him in the September number.

The answers to my questions are so obscure, that it seems to me that Mr. Moon must have been laboring under some mental difficulty—perhaps the moon was changing.

The proposition seemed fair; I accepted it in good faith, and now I am making my arrangements to fulfill my part of the contract.

As he promises to bear the expense of the committee and to pay $25 for each of the purely mated queens, I wish to have some assurance that he will fulfill his part of the contract, and in some way secure me of my reward.

I claim that I should have the privilege of choosing at least one of the judges. The time for testing it is near, and I hope that nothing may occur to mar the pleasure of the occasion.

Smithsburg, Md.

For the American Bee Journal.

Apis Dorsata of Java, etc.

E. PARMLY.

I noticed lately in one of our dailies a statement that "all the European bees taken to the island of Java had perished; that the Italian bee showed the greatest vitality, and was the last to succumb." Do not the foreign bee journals give the cause or causes of this loss?

Any one who wants better reading than the BEE JOURNAL for May must be very hard to satisfy.

It looks as if Messrs. Jones and Benton are likely to succeed in doing good missionary work in Cyprus. Superstition must vanish when it comes in contact with energy and skill in any department of knowledge. May success attend their efforts in their present undertaking, as it has in their past, is the firm hope of all their friends.

[We have not noticed any "causes" for this in the foreign journals. We shall give them as soon as we find anything of interest on the subject.—ED.]

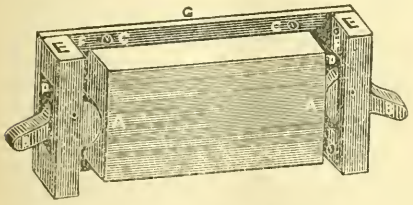
For the American Bee Journal.

Nailing Machine for Frames.

GREINER BROTHERS.

After five years of experience in the manufacture of bee hives and bee furniture, we find that next to a power buzz saw a good "nailing machine" for frames is one of the most indispensable tools we use, and as it is now the time of the year that this kind of work is done by those engaged in the same business, we give its description below, hoping that some may be benefitted by it. The way the machine is made, sizes and dimensions of the material used need not be exactly the same; it may be varied according to circumstances and individual preferences, but the principle will still be the same and the accuracy of the work done with the machine will satisfy in every respect.

Our nailing machine is made as follows: The block AA is 2x5x16½ in.; this is the most important part of the tool, and, as the trueness of our frames depends upon it, it is necessary that it be



(Nailing Machine for Surplus Frames.)

perfect in every respect—out of wind, square (especially the end surfaces), and of correct length. This is fastened to the backboard, G, ¾x6⅜x22½ in. by large screws, leaving even spaces at the sides and ends. The end-blocks, EE, 1¾x2x6⅜ in., with notches, DD, 1⅝x3¼ in., are also fastened in the same way to the ends of the backboard; these answer as supports to the eccentric levers, BB, and at the same time for the machine to stand on. The levers BB are the same thickness as the width of notches DD, 1⅝ in., and the circular part 2½ in. in diameter with handles 2 in. long.

The set screws, CC and FF, are placed as shown in the cut, and, as the machine is reversable, similar screws are needed on the lower side. The screws CC project ⅛ in. from backboard, or one-half of the difference in width between top and end-pieces; the other screws, FF, regulate the projecting ends or tennons of the frame, enabling the operator to get them of just even length.

To begin work the levers BB should be turned up (they are accidentally shown downward, in closed position); have the machine facing you, as in the cut, place end-pieces of frame between AA and eccentrics, taking care that they rest firmly on the bench and close against the backboard, and with a downward motion of the handles BB secure them firmly to their respective places; lay the top-piece on the end-pieces, so that the edge and ends touch the screws CC and FF, and nail; turn the machine over by changing ends, the top-piece being just even with the machine, will then rest on the bench ready for the frame to be finished by nailing on the bottom piece; another downward motion of the handles will free the end pieces, and the frame may be taken out.

The next frame requires the same operation with the exception that the end-pieces are fastened and loosened with an *upward* move of the levers.

For brood frames we use a machine nearly the same; it only varies in size and has no set screws; the top and end pieces being one width the side screws are not needed, and, as we make our top-pieces with shoulders, the end screws are useless.

We do not use any machine to nail sections; if the material is got out true they will come right anyhow, unless particular pains are taken to get them otherwise. It seems like a waste of time to bother with any such arrangement for that purpose.

Naples, N. Y., April 13, 1880.

For the American Bee Journal.

How to Get Choice Queen Cells.

O. H. TOWNSEND.

A few days before you wish a colony to start queen cells, place a new worker comb (which should be clean and white) between two combs of brood containing the queen from which you wish to rear queens. (For convenience we will call this hive No. 1.) Keep watch over this comb, and when eggs are found, mark the date on the top bar of the comb; 3 days later these eggs will be hatching, and that is the right time to remove them to a queenless colony. (We will call this No. 2.)

In choosing a colony to build the cells, always select a strong one of pure Italians, if you have them (hybrids are apt to sting you while removing the cells). Find the queen in No. 2, and remove her with 2 combs of brood and bees into a new hive (No. 3) on a new stand, and build them up as best you

can. Remove all the combs that contain brood from No. 2, first shaking off the bees. I think it a mistake to use old bees for rearing queens; we also want them strong to commence work on the queen cells at once.

Get empty combs enough to fill the space made by removing the brood (less 1 or 2). From hive No. 1 take the comb of hatching eggs, and cut strips from it about ½ inch wide and as long as convenient to handle. Take an empty comb and place one of these strips upon it a little below the top bar and parallel with it, in such a way that the cells on one side of the strip will point downward; gently push the strip against the comb, and stick 1 or 2 pins through the strip into the comb, to hold it in place.

Use only 1 strip, or row of strips, on a single comb, and this on only 1 side of each of 5 or 6 combs. Hang the combs in the hive with the strips next to you, and put the combs close enough together to hold the strips firmly in place. Close up the hive, giving the bees a chance to fasten these strips, and deposit food for the use of the young larvæ, which they will lose no time in doing, having plenty of bees for the work on the start. Leave them just 4 days (do not wait until the 5th day, or some of the cells will be sealed); then open the hive and loosen each strip from 1 comb with the point of a sharp knife, being careful to cut well away from the strip.

If all the above directions have been closely followed, you will be surprised to see long rows of nice-looking cells nearly ready to seal. Choose the best ones to leave, and "steal" out the larvæ from the others, leaving the food, which will be removed by the bees, into the cells of your choice.

These cells will hatch (or the queen will) on the 13th day from the time the strips were placed in the queenless colony. In this way I have never failed to get plenty of well developed queen cells.

Those who are not satisfied with their past experiences in queen rearing should try this plan, and they will be surprised at the number of choice queen cells that a good colony will produce. I have had single colonies build 40 and 50 cells on these strips of comb, but 20 are the most I have ever permitted to mature, and this was in a colony that had started cells preparatory to swarming. A queen will hatch from each of the 20 cells. I have 18 of them now in my yard, and a neighbor has the other two, and every one of them is doing "its duty" in a strong colony of bees.

The above method may seem slow and tedious before trial, but I do not find it so after getting used to it, and I am sure I am paid for my care by getting a superior quality of queens, as good as any natural ones can be. I shall hereafter rear all my queens in this way.

Bees are in good condition here. Hives full of brood, and a good many have sealed drones. We have reason to expect a good report from Michigan the coming season.

Hubbardston, Mich., April 16, 1880.

For the American Bee Journal.

Dysentery, or Wintering Troubles.

G. M. DOOLITTLE.

It would seem that my article on page 541 December number of the AMERICAN BEE JOURNAL was not worded so as to be understood by all, for it appears that a few of my friends think that I have gone crazy. It also appears that when the first part of that article had been read that the conclusions drawn in the last part were not applied to the first. I generally intend to write my articles on subjects which are of interest to the readers during the month in which the JOURNAL is read, but it would seem that I must rise and explain to my friends just where I stand on this dysentery question at once, if I ever expect to gain their ears again.

On page 211 of *Gleanings*, our friend, J. Elliott, made a great mistake in putting "Doolittle head and shoulders above all other apiarists." It's no wonder he got disgusted with me when he put me where I did not belong. If he will put me down to a level with, or a little below, the average bee-keeper, and carefully read the last part of my article over again, on page 541 December number, I think he will see that he and I agree exactly as to his swarm over which he put the sod in 1865. I am only commencing to learn a little of this interesting business, "Apiculture," and, as I learn, I write what I learn, so that what is practical may be of use to the readers who know less of the business than I do; but, kind reader, my articles want sifting. Keep the good, if there is any, and throw the bad away. But to return: By placing a wet sod over our bees, as did friend Elliott, poor or soured honey is produced, as well as dampness of the hive. Under these conditions, if his bees stood a confinement of 6 weeks without all dying, they did better than we would have expected. Had he placed this sod on them in July, when they could have flown every day, it would have done no harm. On page 21 of the AMERICAN BEE

JOURNAL for 1880. W. A. Horton agreed with my article on page 541, although he says he does not.

He says a few of his very weak colonies commenced soiling their combs after a month's confinement, thus claiming that long confinement is not the cause of the so-called dysentery. If he will recall page 541 again he will there find that but few bees in a hive tend toward a failure in wintering because they cannot keep up the desired warmth without consuming an undue quantity of food. It was not the length of time, as regards weeks or months, that I was trying to get at entirely, but it was that if all the conditions given in the last part of my article were carefully looked after, that our bees could be be kept in confinement with comparative safety for a much longer period than could be possibly done if we were heedless of those conditions.

On page 121 of *Gleanings* for 1880, our friend, H. Roop, does not stop to round off the corners of his words a bit, but says just what he thinks. Farther on he says: "I supposed that nature designed the honey bee, as well as nearly all the insect creation, to go into a partially dormant state on the approach of cold weather and remain so for several months without any injury to themselves, etc." Now I do not know but I am wrong, but I had always supposed bees were a native of a warm climate, and hence nature did not design them to go into a dormant state, as we find flies, wasps, ants, etc., during cold weather. If friend Roop will go to a colony on some zero morning and quickly draw a frame from the center of a large cluster of bees, he will find that the bees inside of those forming the crust, or outside of the cluster, are just as lively as in July; that brood rearing to a certain extent is going on after the middle of January, and that at all times food is consumed, which is not the case with ants and wasps. Perhaps I was a little fast in using human beings or the animal kingdom to illustrate what I desired to, but I think not more so than friend Roop is in classing bees with insects which do not move or stir during the cold months of winter. What I wished to have understood in my article on page 541 was this: that bees of a necessity must consume food during confinement; that if this confinement was continued longer than they could contain said food in their bodies they would have the so-called dysentery; that the so-called dysentery was no disease at all, but simply the effect caused by a too long confinement, that poor honey, or being disturbed so as to cause more honey to be taken than was required, uneasiness or disquietude of whatever nature which tended toward an undue consumption of honey, that confinement in warm weather, too few bees, dampness, or draft of air through the hive, all helped to produce the effect sooner or later; while perfect quietude under favorable circumstances, in a well ventilated cellar or a properly constructed chaff hive, would tend to successful wintering. Also, that if we could have weather the year round so that bees could fly every day, no amount of honey dew, poor food, dampness or zero cold during the night would cause the so-called dysentery. The cause of confinement, of course, is our cold weather.

Borodino, N. Y., May, 1880.

Indiana as a Bee-Keeping State.

F. L. DOUGHERTY.

The following is a portion of a communication presented to the last meeting of the State Board of Agriculture by me, as Secretary of the Indiana Bee-Keepers' Association. The purpose of the address was to influence the Board to recognize the bee-keeping interest in their premium list:

There is no reason why Indiana should not be in the front rank with the products from the apiary. She has growing upon her soil almost as large a variety of honey-producing plants as any State in the Union. We have honey-producing trees in vast numbers, such as basswood, poplar, elm, willow and the various fruit trees. We have among the countless multitude of flowering shrubs and plants, white, alsike and red clover; buckwheat, golden rod, the many asters and mints, and small fruits, currants, gooseberries, raspberries, blackberries, etc. In fact, from the first blossoms of early spring to the coming of frost the flora of Indiana is sufficiently productive in the secretion of honey to afford our little pets plenty of forage on which to work. It is estimated that we have in our State as many as 30,000 colonies of bees, producing annually an average of 15 lbs. per colony, or a total of 450,000 lbs. of honey, which, at 12½c per lb., would bring $54-225, and I believe the average none too high. We have no reliable statistics from which to glean information on this subject. But through the efforts of T. G. Newman, President of the National Bee-Keepers' Association, arrangements have been made to have complete statistics gathered by the Government, while taking the next census. Arrange-

ments are also being made by the Executive Committee of the Indiana Bee-Keepers' Association to gather all possible information on the subject in this State. As regards the offering of premiums, etc., I would suggest the following as a competitive list:

Best package comb honey, 1 lb. or more.

Best package extracted honey, 1 lb. or more.

Best crate of honey in the comb, in the most marketable shape.

Best display of honey, both comb and extracted.

Best machine for extracting honey.

Best display of bee-keepers' supplies and the best display of wax.

In conclusion, I would ask that you also inquire into the feasibility of the establishment of an apiary in connection with our agricultural college. Other States have gone far ahead of our own in this respect. Michigan has in connection with her agricultural college an apiary, managed by a competent, practical apiculturist, whose observations are recorded and published, and whose methods of treatment are always open to the inspection of learners. Several other States have followed the worthy example of Michigan. This department, in connection with the agricultural college, should be and will be, if successfully managed, not only self-sustaining financially, but a repository of demonstrated facts and scientific knowledge, to which the public should have full access, and bee-keeping will thereby be raised to the rank of a surely remunerative pursuit, instead of a haphazard speculation.

From the Prairie Farmer.

Transferring Bees from Box Hives.

MRS. L. HARRISON.

When you have bees to transfer choose a warm, still day; about 10 a.m. is the best time, as many bees will be in the fields at that hour. Get everything in readiness for use that you will need before the bees are aware of your intention. If you get the bees stirred up, and have to run to the shop, string-bag, kitchen and pantry for tools, you will wish that you had never seen a bee, before you get through. You will need a box to drive the bees into, and a smoker to intimidate them. If we were doing the transferring, we should take the hive, after the bees were driven out, to the kitchen, as we should feel more at home working at the kitchen table, having provided there for our use beforehand a hammer and cold-chisel for cutting nails, a small saw for cutting off the supports, and a long knife for cutting combs loose from the sides of the hive, and something soft, like folded muslin, for laying the brood upon, so that the baby bees would not bruise their heads. If we were intending to fasten the combs into frames, with spines from the red haw, we would have holes punctured all around the frames, and the thorns near at hand; or, with splints, have them tied in pairs, and a wire or string attached to the other end of one of them, so that they could be readily adjusted, when put over the frame. As some pieces of comb are more readily fastened one way than another, strings, splints and tacks should be at hand.

When all is ready, and the dog tied up, smoke the bees, and give them a little time to fill their sacs with honey, then invert the hive, and place the driving box on top, wrapping around where they join with cloth to prevent any bees from escaping. Now you can sing "marching along," keeping time by rapping sharply on the hive with a stick for about 20 minutes, when the bees will be clustered, like a new swarm, in the top of the box, and should be placed where the hive formerly stood, leaving an entrance for the bees which return from the fields.

The hive is now ready for dissection, and may be done in any way best suited for preserving the combs entire. If the pieces of comb are cut a trifle larger than the frame, it may be sprung over it and more easily kept in place. All worker comb should be carefully saved, and drone appropriated for wax. Handle the combs containing worker brood carefully, for the future prosperity of the colony depends, in a great measure, upon the safety of the babies. When the frames are put into the hive, those containing brood should be placed together in the center of the hive. When the combs are all in the hive, it should be placed on its stand, and the bees poured out of the box in front of it, when they will readily enter, like a flock of sheep into the fold. In a few days the owner will notice that they are working with greater energy than ever before, and if splints or strings have been used to fasten the combs they may be removed, as the bees will have fastened the combs securely. We almost forgot to mention one important item—care should be taken that no honey is running from the transfer hive, to attract robbers, when it is placed upon its stand. This spring is a good one for transferring, as most colonies have very little honey.

Peoria, Ill.

Conventions.

Central Michigan Convention.

The Central Michigan Convention met at Lansing, April 15, and was called to order by Pres't W. J. Ashworth, who, after a few remarks, suggested that a Secretary *pro tem.* should be elected to fill the vacancy caused by Mr. Frank Benton's being in Europe, and, on motion of Mr. Harper, Geo. L. Perry was elected.

The first topic considered was the methods of wintering, and reports of those present were received. The majority favored the chaff hive or similar methods of out-door packing.

Mrs. L. B. Baker, of Lansing, described her method of cellar wintering, and gave statements of great success with the chaff hive. Mr. Baker said that he could produce experiments and arguments that gave the cellar the advantage whenever the *right kind* of a cellar could be had.

Discussion then drifted into "early" breeding; its dangers and advantages." On this the convention was divided. Some said the earlier the better; others that they did not wish bees to breed until they could fly with safety.

Question—"How to stimulate brood rearing?" Answer—"By feeding."

Ques.—"How shall we feed?" Mr. S. C. Perry then introduced a feeder, known as the Globe Feeder; this was entirely new, and was received with much favor. It answers the purpose of a chaff cushion, and gives the apiarist a chance to examine and feed the bees in the coldest weather, without admitting cold air, or disturbing them. He presented the idea to the convention, and told them to try it for themselves.

Ques.—"Is pollen necessary to brood?" D. K. Coles answered, Yes.

Ques.—"Are spring flights beneficial to bees?" Mr. Harper answered, Not too early.

Ques.—"Is upward ventilation necessary?" Mr. Blackburn answered, No, except what goes through the cushion.

Ques.—"Should the entrance be contracted in winter?" Ans., from the Chair, Yes.

Mr. S. C. Perry, of Lansing, then gave his plan of a door-yard, that gave the bees a chance to come out on the alighting board, and also prevents a cold draft of air coming in at the entrance.

Mr. C. B. Smith, of Leslie, was requested to give his opinion of the best winter weather for bees. He said he preferred a continuous cold winter to one of uneven temperature.

Mr. Smith and Mr. Waldo, of Grand Ledge, said they practiced late breeding with success.

Mr. Coles, of Howell, and Mr. Harper said they wanted all work done before cold weather.

Questions were asked and answered on various items that would not interest the general reader.

The following essay was then read by G. L. Perry, of Lansing, on

Comb Foundation and Its Manufacture.

With the exception of the hive, perhaps, no article is of more value to the bee-keeper than that known as "comb foundation." Many of us have used it, and when we look at the straight and beautiful combs produced, our admiration leads us to inquire the origin of such a valuable auxiliary. Comb foundation is of modern origin, much later than the movable frame, and consequently has but a short history.

From Prof. Cook's "Manual of the Apiary" we learn that as early as 1857 Herr Mehring, a German, used impressed sheets of beeswax as foundation for honey comb. His machine consisted of indented metal plates; the sheet of wax being placed between them and subjected to pressure. As this was a slow and imperfect process, it soon passed into disuse and was forgotten. This, I think, is as far as the Germans ever carried its manufacture; still, they are entitled to the invention. Foundation was first brought to the notice of American bee-keepers by Mr. Wagner, who obtained a patent for the same in 1861, but, as this had a tendency to restrict its introduction, and as the demand for it was limited, it also was soon forgotten. Seven years later, in 1868, Messrs. King Bros., of New York, secured a patent on the first machine. This also was short-lived; for the foundation consisted simply of narrow strips of wax run upon wood, and was only used for starters in the brood frames.

For 6 years longer the busy bee was to be deprived of this great help, which may justly be called the lever of bee-culture, until the inventive genius of Mr. Fred. Weiss came to their relief. Mr. Weiss was the inventor of the first machine that can claim such a name, and this it is certainly entitled to, for it combined all of the inventions before, and all of the ideas that have since been produced. In addition to the German indentation that gave the face of the cell, he cut small grooves, to give side walls of cells, and thus gave to the world the first comb foundation with side walls.

Becoming advanced in years and in

indigent circumstances, this inventor was unable to keep his name parallel with his invention, and, as I understand, his machine was labeled with another man's name, and offered for sale at $100, while the poor inventor was wholly forgotten.

Since that time several machines have been produced, each having some peculiar features, and bearing the name of their manufacturers, but not one of them has given the credit to the original inventor. Let bee-keepers, when they look at the straight comb that results from the use of comb foundation, remember the poor German who gave it to us, and let the supply dealers thank him for this article of profit. His name should be placed by the side of the Rev. L. L. Langstroth, and these be regarded as two of the greatest American benefactors of the apiarian science.

Such is the history of the introduction of comb foundation—the next thing to consider is its manufacture. This is attained with no small amount of trouble, and what might be termed "muss," as our worthy President, Mrs. Baker, and others present, can testify. The wax is melted and strained through several thicknesses of cheese-cloth to remove the sediment. After being cleansed, it is kept over the stove in a large can, holding from 60 to 80 lbs., and 2 qts. of water, called a "melting can." From this it is strained into a smaller can, holding 2 parts of wax and and 1 of hot water; this keeps an even temperature and catches any sediment that may yet remain.

The dipping is next in order, and requires a thin, straight-grained board of the width and nearly the length required for a sheet. This is placed in cold water until well soaked, then dipped in the melted wax and taken out quickly; the dampness of the board prevents the adhesion of the wax. Several dippings are required to obtain the desired thickness of sheet, varied according to the temperature of the wax.

After being taken from the board and allowed to cool a moment, they are ready for the machine. As a rule, the first sheet sticks to the rollers, tears apart, etc. Then we must get a sharp stick or quill and pick the wax from the rollers; this is a long and tedious job.

By the time the rollers are cleaned, and with the assistance of some more soap suds or slippery elm bark solution on the rollers, the second sheet comes out from the machine in satisfactory shape; it is then taken to the rinsing tub and thoroughly washed and sponged. After being dried it is stowed away in piles of about 8 lbs., to be cut according to orders.

This is the simplest and we think the best process. Many use steam pipes and other fixtures, but we think them superfluous. It requires 5 persons; 1 to dip, 2 at the machine, 1 to rinse, and the other to sponge and lay away. When the wax and water are cold it will be about 9 o'clock before work can be commenced, and 65 lbs. is an average day's work, varied adcording to weather, etc. On cool days the sheets will crack and break, and in extremely warm weather the sheets will hardly bear their own weight when taken from the machine. The only danger attending the manufacture of foundation is that in the hurry of the work the wax in the melting can may be forgotten, and if the heat is too great, it will boil over, and, being of an inflammable nature, it ignites instantly. We never allow it to boil, only to retain the melted state.

The convention then proceeded to elect officers for the ensuing year, as follows: President, Rev. W. J. Ashworth; Secretary, George L. Perry; Treasurer, Mrs. L. B. Baker. Vice Presidents were elected from the counties represented: Ingham, Prof. A. J. Cook, of Lansing; Shiawassee, Allen Beard, of Morris; Livingston, W. R. Coles, of Howell; Ionia, Stephen Perry, of Portland; Eaton, N. B. Coles, of Grand Ledge, and Clinton, Mrs. L. J. Gibson, of Dewitt.

Adjourned to 1 p. m., when the convention listened to the following essay, by Stephen C. Perry:

Water for Bees.

To briefly examine this subject, let us first inquire

Do Bees Need Water?

Inasmuch as all animals and plants partake more or less of water, it is no wonder that bees should occasionally take a drink; but that an abundant supply of water is as essential to the welfare of the colony as is either honey or pollen, is a fact which but few realize. Not only do the bees on the fly drink it, but they carry it into their hives for the young bees which do not yet fly out, and to mix with the pollen and honey to make larvæ food, in such quantities that during this spring my 50 colonies have taken some 5 quarts of water in one day. Bees, therefore, need large quantities of water, and we we will now inquire

How should they obtain it?

Says one: "There is a beautiful little lake near me, where my bees can get all the water they want." Says another:

"A splendid stream runs just a little way from my apiary, where my bees have an abundant supply of water." Such conveniences are very nice for a horse or cow, and for sheep and poultry; they can march down to the edge of the lake or river, and carelessly place their heads down for a sup, and if a wave splashes the water half way to their eyes, they can quench their thirst with indifference; but how is it with the little honey bee? See it on the wing carefully approach the stream; it balances itself over the edge of the water, then flirts up, then down, looking for a spot where it dare to alight; the ripple recedes, it sees a moist pebble or a dampened spot on the ground, and ventures to alight, but scarcely has it extended its ligula to sip a drop, when the water returns, and if the poor bee is smart enough to spring into the air it saves its life, but obtains so little water that it goes off in disgust to the barnyard or cesspool, where it knows the water will remain quiet enough for it to get some, even if the water is not so clean.

"But," says one, "I have a nice fountain in my yard, and an earthern flower vase under it, and the vase keeps just full of water all of the time; it is amusing to see the little fellows form a circle clear around the edge of the vase and sip the water; and if one gets in it soon flaps around to the edge and, the vase being full, it easily gets out." Yes, that is better; but just think what a necessity it would be that would compel us to go where we may be very liable not only to get a ducking, but have to undergo all the horrors of a threatened death, even if somebody else did know we would get out alive at last.

Many ways may be devised to furnish water for bees, where they can get it without danger of getting wet. I will mention a very cheap one: Take an oyster can, remove one side, prepare some thin strips of wood as wide as your tin dish is deep, and just long enough to slip into it; take some little blocks ⅜ of an inch thick and ⅜ of an inch wide, and as long as the dish is deep, place a block across each corner of the dish on one side; then against these place a thin strip, then two more blocks and another strip, and so on until it is wedged full; it can then be filled with water and placed near the apiary. There should be at least one for every colony.

Having now demonstrated that bees need water, and how to obtain it, let us consider

In what condition the water should be.

Because people have seen bees around barnyards, hog-pens, cesspools, etc., where there was more or less moisture, they have supposed the bees were after salt, ammonia, or something of the like; but, from observation, I have concluded differently. The urgent need of water, and the great danger to which they are exposed in other places, drives them there. Bees, like nearly all other animals, may need a little salt occasionally for medicine, and it is well to have a few dishes of water slightly salted within reach. In order for the bee to carry the water to its hive, it must take it into its stomach; therefore, the water should be slightly warm. This, I think, furnishes another reason for bees frequenting barn-yards and such places.

To sum up: First, bees when rearing brood should have an abundant supply of pure, soft water. Secondly, it should be provided for them so that they can obtain it without danger of their getting wet; and, thirdly, it should be furnished, fresh and clean, and kept at about the right temperature.

President Ashworth called for remarks.

Mr. Coles, of Howell, thought water essential at all times of the year.

Mr. Smith, of Leslie, thought the same.

Mr. Harper thought the natural resources quite sufficient.

Mr. Blackburn asked if water was wanted in winter. The convention answered no.

The Secretary then read an interesting letter from Mr. Frank Benton, the late Secretary.

Prof. Cook entered the room, and was received and introduced to the convention by President Ashworth. The Professor was asked to give his views of Cyprian queens. He did so, giving particulars of his correspondence with Mr. Benton.

Mr. Baker, of Lansing, moved that the Agricultural College be instructed to obtain Cyprian queens and rear queens for the benefit of the Association.

Mr. Harper asked if queens could be obtained direct from Cyprus.

Prof. Cook said they could.

Mr. Harper moved that Prof. Cook be instructed to order a queen.

Mr. Lewis advised caution in ordering, until the price, chances and condition of shipment be better understood.

Prof. Cook advised all to wait until their merits are more fully determined.

President Ashworth then read an essay on select queen rearing, and gave what he considered the standard of excellence in queens and colonies.

Mr. Harper was requested to give his

method of queen rearing. He said that in rearing queens careful selection should be the breeder's greatest concern. He considered the cheap queens now offered for sale as detrimental to the industry.

He was followed by Messrs. Lewis, Coles, Blackburn and Perry, whose remarks entirely agreed with his.

The question was asked, "which were the best Italians, light or dark?"

Mr. Harper preferred the light, because of their docility; Prof. Cook and others preferred the dark.

The President then announced that the question-drawer would be opened, and appointed Prof. Cook, Mr. Baker, Mr. B. Salisbury, Mr. Harper and Mr. Smith, to answer the questions.

While the questions were being prepared, time was given to examine the exhibits of apiarian supplies.

President Ashworth had a consignment of section honey boxes, etc., from Lewis & Parks. Mr. C. B. Smith, a hive and sections. Mr. Wood, of the firm of Norman & Wood, a chaff hive. Mr. Perry had comb foundation, sections, feeders, etc.

The question-drawer was opened, and the many inquiries it contained showed that great interest was taken by those present. The following were a few of the most prominent ones:

Ques.—"What is the opinion concerning grape sugar for feeding?" Ans., by Prof. Cook, I am utterly opposed to it.

Ques.—"What is a living price for extracted honey?" Ans., by C. B. Smith, 15c.

Ques.—"Which is the best for fall feeding, honey or sugar?" Ans., by Prof. Cook, Sugar.

Ques.—"What is the evidence of foul brood?" Ans., by Prof. Cook, A very offensive stench.

C. B. Smith moved that the President publish his experience with grape sugar. Declared optional with the President.

Mr. Blackburn stated that he had successfully fed grape sugar for spring feeding.

Mr. Fishel stated that he had fed the same, much to the injury of his bees.

Prof. Cook read an essay entitled "A Curious Discovery in Natural History."

After some further discussion, Mr. L. B. Baker offered the following resolution, which was unanimously adopted:

Resolved, That it is the sense of this convention that 15c a lb. is a fair price for fine comb honey in good marketable shape, and that we will retain the products of our industry until such may be obtained.

The convention then adjourned to meet again in the Pioneers' Room of the Capitol building in Lansing, on Oct. 7, 1880. GEORGE L. PERRY, *Sec.*

Read before the Indiana Convention.

Untested Queens.

A. G. HILL.

This term signifies a laying queen, shipped with guarantee of safe arrival, but no warrant is given to insure the purity of her brood. She must in all cases be reared from the brood of a queen of undoubted purity. From the time of the first importations of queens from Italy to this country, producers have placed on the market queens of this character; so the subject is not a new one, although it has recently been quite generally treated upon. Much of the sentiment against this class of queens has perhaps arisen from prejudice, and just because some one has chosen to speak against them. It is the case among men of honesty, that just as good stock is employed in rearing queens which are sold before their quality is ascertained, as is used in breeding the tested queen, and often they are progeny of the same colony.

That no one can rear queens and sell them at $1 each (the prevailing price) at a profit to himself, has been stated. To verify this statement a few cases of repeated failure have been cited; but how do these failures compare with those of the honey producers, which have been so universal? The queen breeder of 1879 reaped a good harvest. The heavy losses of bees and the anxiety of the unfortunate to increase, have made a ready sale for all the queens that were reared.

It is urged that those who sell queens cheaply must necessarily rear them cheaply, and therefore produce an inferior stock. An experience of 15 years in this branch of apiculture has not yet enabled me to discover a cheap method by which to rear queens. The dollar queen of to-day is brought about in the same manner as the $10 queens of as many years ago.

You may say of the producers, that they use small nuclei, employing a less amount of bees, and thus reducing the expense; but the small nucleus was not abandoned because of the inferior quality of the queens bred therein, but on account of the liability of the bees to abscond and the amount of attention required to keep them in fitness. No one ever found fault with Quinby's queens, reared in boxes, containing 3 or 4 frames, 5x6 inches square. Instances

are known of breeders who have sold impurely tested queens as untested, but this is dishonorable, and the guilt of such a one should be excused none the less by the plea that good queens cannot be furnished at that price. If there be a disposition to deal unjustly, the opportunity to do so is as great for those who sell tested queens only, as for him who deals in the untested as well; and for this reason there is great variation among Italians of pure breed; rendering it difficult to decide as to purity, and, as there is neither court nor jury to make decision, they are to be considered as pure because they cost $3 each, and the producer says they are pure. Probably ⅔ of all the queens bought during the past season were the untested and the unwarranted, and whatever may be said against them, the low price at which they are sold for profit, and the readiness with which they can be furnished when queens are most needed (swarming time) will keep up a demand.

Kendallville, Ind.

Ashtabula County, O., Convention.

The bee-keepers of Ashtabula and adjoining counties met at Andover, O., on Feb. 25, and organized a society by the adoption of a Constitution and By-Laws, and electing the following officers for the coming year:

M. E. Mason, Andover, President.
C. L. Payne, Eagleville, Vice Pres't.
W. D. Howells, Jefferson, Secretary.
C. E. Harmon, Andover, Treasurer.

Mr. T. G. Newman, of Chicago, was present by request, and was heartily welcomed by those present.

The following questions for discussion were presented:

"The artificial production of queens. Does experience of scientific bee-keepers prove that they are as reliable as those reared by natural swarming?"

Mr. Newman spoke at some length on the question, condemning the rearing of inferior queens, and said that the stock must be improved by selecting the best to breed from.

2. "Is it desirable to use a 2-story hive for the production of surplus honey?"

Mr. Bushnell thought the less machinery about bees the better.

Mr. Trunkey—If the frame was shallow it would be better to use a 2-story hive.

Mr. Belden—Found that the honey in the lower tier was not as nice honey as that obtained in the upper story of 2-story hives.

Mr. Newman—Two-story hives, if rightly managed, are much better than 1-story ones. They admit of getting honey in the most marketable shape.

3. "Is it advisable to use comb foundation?"

One member found the use of wire to strengthen the foundation very serviceable.

Mr. Newman said that comb foundation was very desirable in building up colonies; but its use in surplus boxes must be not more than a starter, unless the *thin* foundation made by Messrs. Van Deusen be used. That had been used with success by some, but he was not yet prepared to indorse its use for comb honey. Another season would perhaps demonstrate whether it will do to use full sheets of it or not.

4. "What is the best method of preparing bees for winter?"

M. E. Mason gave his experience as follows: He had 40 colonies, and put them in a cellar prepared for them; took them out for two airing flights. After the first flight they showed signs of dysentery. Left 20 colonies out doors in chaffed hives. Two colonies were left in a cellar all winter without a flight, and wintered in a splendid condition.

Mr. Newman advised every one to try different ways and learn from experience the better plan. He has his prepared in four different ways this winter. But what would prove good this winter might never do again as the winter is so open.

5. "In what shape shall we put up our honey for market?"

Mr. Newman said that comb honey should be produced in small sections; the 2 principal sizes being 4¼x4¼ and 5¼x6¼ inches outside. Extracted honey must be ripe before extracting, and should be shipped to market in small kegs containing from 100 to 200 lbs. each.

Moved and seconded that the next convention meet on the first Tuesday in February, 1881, holding 2 days. Carried.

Moved and seconded that Mr. Newman be made an honorary member of this Association. Carried.

On calling for statistics, after a part of the audience had left, the following result was obtained:

No. of colonies spring 1879	92
No. of colonies fall 1879	206
Extracted honey obtained 1879, lbs	3,016
Comb honey obtained, lbs	1,316
Wax, lbs	39
Average price for extracted honey	12½c
Average price for comb	16c

One person reported that he had obtained more than 125 lbs of honey from 1 colony.

Read before the Indiana Convention.

Apiculture—Bee Hives.

J. M. HICKS.

It is a pleasure, and I deem it an honor, to have the privilege of addressing this convention, upon the subject of apiculture, as being adapted to the many, as a business. It was my good fortune to meet with and become a member of the first organization that ever convened in this city as a band of bee-keepers. It has also been my lot to have been a bee-keeper for many years, having formed a love and desire to learn what I could about the little pets when but a small boy. There are many, however, that form an ardent love for bees, after they arrive to manhood and womanhood. Others take up the keeping bees as a pastime, having of course some profit in view. Again, there are others who go into bee-keeping as a means of support, and we often find them failing, as in all other business, and then the next we hear is that bee-keeping is a humbug, and he or she who has failed retires from the contest. This is owing to the simple fact, that they never study nature's law governing the habits and working of their stock, a want of which will surely produce failure in this day of progression. It has been so in in all ages of the world, and the bee business is no exception.

But let me say, we never find any one who goes into this business with a determination for success, and makes it a subject of study who ever fails. Many of you may ask why I make this assertion? If so, I will answer, first, that such parties as last referred to, look well to various conditions necessary to successful bee-keeping. For instance, a good and proper location for an apiary. Then they look well to the kind and style of a hive to be used; also as to the various departments their apiary is to be run for, such as honey to supply a given market, or the especial raising of bees for the trade, and also that of queens, for the demand. I would not forget the resources for the bees to work on. All of these things are necessary elements to success, and are of vital importance in the proper management of the apiary, and should be well studied by the apiarist.

Much precious time is wasted in trying to invent worthless beehives, such as we now have patented and offered by unprincipled venders, who never did and never will know the first principles or requisites for a good beehive. Hence so many failures in this hive business, and more bees murdered and ruined. Let me admonish all to beware of him who comes to you with an untested beehive, telling you it is the best hive in the world, for you may be sure he himself knows but little if anything about bees, or what a hive should be to possess the good qualities, such as nature's law demands for a successful manipulation of bees. But study well all the essential points referred to, and you will be capable of judging for yourselves as to the wants of a successful apiarist.

I want no hive that has any loose boards or boxes to remove before handling, or replace after handling my bees. All such I consider as a nuisance and worthless.

Central Kentucky Convention.

The annual convention convened at Lexington, Ky., on May 4, President H. C. Hersperger in the chair.

The Secretary's and Treasurer's reports were read and approved.

The following new members were enrolled: Chas. F. Muth, Cincinnati, O.; E. A. Bagby, Midway, B.F. Elkin, Mercer County.

President's Address.

GENTLEMEN: I feel like congratulating you upon the ending of a mild winter and the opening of a favorable spring. One of Kentucky's mildest winters has just passed over us, and a beautiful spring, laden with opening flora, is upon us. Wherever bees have been properly provisioned they are now in fine condition. The mildness of the winter, the absence of severe and protracted cold, made it only necessary for the prudent bee-keeper to see that his bees had sufficient stores and nothing more. I have wintered 40 colonies without loss, and I gave them no care whatever, except to feed a few. I had several nuclei, with about a pint of bees and an Italian queen in each, and they all went through right. What did it? A mild winter, and nothing else.

When we met here a year ago, an unusually severe and protracted cold winter had just passed over us. Our bees were fairly frozen out. Some lost nearly all, as friend Holman will testify. Others, again, had them so weakened by freezing to death upon the outer combs, that they could not build up in time for the spring bloom, and the tiny cups of the flowers were filled with sweet, but the little winged harvesters were not here to gather in the harvest, and nature's sweetest boon was wasted on the air.

When we contrast the disastrous winter of 1879 with the mild winter of 1880

and look at the results, do we not find a plain lesson before us? Is it not clearly demonstrated that even here in the latitude of Kentucky our bees must have proper protection in cold, rigid, zero spells of weather, that often sweep over us? We give protection to our stock and to ourselves, but we let our bees winter without any. Our horses and cattle may rough it through, but they will come out in bad condition. Our bees may rough it through (I speak of severe winters), but they will come out in poor condition for service in the spring. The very mildness of our climate unfits us to guard against the zero weeks that occasionally come down upon us. It is hardly reasonable to expect bees to go through 4 or 5 weeks of zero weather in a box of ⅞ inch boards, and come out all right in the spring. The food in the cluster becomes exhausted, and, if the cluster is broken to bring in a fresh supply, it cannot again unite itself, and of course the bees must perish with plenty of honey around them.

The opinion is held here in Kentucky and elsewhere that bees sleep through the winter, and the colder the winter the better for the bees. This is a mistake. They eat, digest and live just as cattle do, and the colder the weather the more food they will consume in order to keep up a proper degree of warmth.

You will understand me that the ordinary mild winters of Kentucky require no special care, but the long, cold spell of 3 to 5 weeks must be bridged over by painstaking of some kind or other. Each may have his own method in giving it, but protection they must have. This, together with proper feeding, will bring them out of winter quarters in splendid condition to "improve the shining hours." By proper feeding, we do not mean feeding by the spoonful, but with a liberal hand. Give them, especially in March, not less than 10 lbs. of honey or good sugar syrup. This will put them in good cheer. They will go to raising brood, and when the spring opens you will have a hive full of young bees ready for work.

The honey or syrup you feed them will not be lost. They will pay it back with interest. They are close calulators; they never raise much brood without much honey; they seem to measure the honey and raise brood in proportion. They may be raising brood rapidly in April from the yield of honey in the flowers, and if it is suddenly cut off by a cold snap, and no resources of supply left them, in order to save their own lives and perpetuate the colony, they will take the brood out of the cells and drag it out of the hive, and thus bridge over the interval of bloom. This may be simply nature's law of self preservation, but we cannot but admire the instinct, if not intelligence, which God has given them. I have said this much of wintering and springing bees, because I regard it as the key to successful bee-keeping. Strong colonies alone give a heavy yield of honey.

Of course much depends upon a good strain of bees. It is now well understood there are Italians which are poor workers, and there are Italians which are superior workers. It is our work to cultivate and develop a superior strain of bees, by raising queens from such as give the best results. The superiority of some colonies over others is seen in almost every bee-yard, with the same conditions, so far as we can see, attending them—not only for 1 year, but until the queen becomes too old for service. The course of the bee-keeper is here clearly marked out. Raise queens from the best, and let poor ones go; keep the fittest, and weed out the poorest.

Eminent bee-keepers all over the country are already taking steps in this direction. The natural law of selection by a "survival of the fittest," is too slow a process in this fast age of ours. We want the work of many years compressed into a few, that we may reap the advantages, and see the footprints of our going.

I am gratified to believe that the interest in bee-keeping here in Kentucky is on the increase; that hundreds are going into it, while but few are falling out. It is too late to be called a failure. The science and the interest and success attending it have made it a source of wealth in our land. In the North, East and West, many are making it a special interest, through which they obtain a living; and then again here and there are many, in connection with other pursuits, keeping bees intelligently, and reaping a rich reward of pleasure and profit.

God seems to have intended the flowers for every one, for he has made them to bloom in every latitude, and bees to live in every climate. The beautiful Ligurians swarm among the flowers of our land as much at home as in their own native Alps. And he who does not provide for and accept that which is given him, denies himself one of the pleasures, blessings and privileges of life. I thank you, gentlemen, for the courtesy and kindness you have shown me as your presiding officer. My best wishes are for the continued prosperity of the Society."

The following committee was appointed to draft questions for general discussion, with instructions to report at the afternoon session: Chas. F. Muth, J. R. Williamson, J. W. Bagby,

The following officers were elected for the ensuing term: H. C. Hersperger, President, Jessamine County; W. W. Williamson, Secretary, Lexington; F. P. Scearce, Treasurer, Lexington. Vice Presidents—Chas. F. Muth, Cincinnati, O.; J. W. Rose, Fayette; Dr. Van Atwerp, Montgomery; J. W. Egbert, Mercer County; W. B. Herring, Scott County; John W. Bean, Clark County; J. T. Wilson, Woodford County; J. W. Bagby, Pendleton County.

On motion of W. B. Herring, seconded by J. W. Rose, the following resolution was unanimously adopted:

Resolved, That it be the duty of the Vice Presidents of this Association to obtain from every bee-keeper in their several districts, as near as possible, statistics of the number of colonies on hand at the beginning of this season, the increase for the present year, and amount of honey and wax produced, and report the same to the Secretary at the next annual convention, after which the Secretary shall forward the same to the State Commissioner on Agricultural Statistics, etc., at Frankfort, Ky.

The Secretary said he had a communication from Dr. N. P. Allen, Smith's Grove, Warren County, Vice President of the National Bee-Keepers' Association, requesting his assistance in organizing a State Convention at Louisville in October next, it being the intention of the Southern Kentucky Bee-Keepers' Association to disband and merge into the State Association.

Several members expressed themselves as decidedly opposed to any dissolution of the district or county associations, while they were in favor and fully approved of the organization of a State Convention.

The Secretary offered the following resolution, which was unanimously adopted:

Resolved, That this Association is in favor of all local associations and conventions, and fully approves of the organization of a State Association, and that three delegates be appointed to attend the organization of the State Convention at Louisville in October next.

The President appointed the following committee: W. Williamson, Chas. F. Muth, J. W. Rose.

Mr. Cunningham asked how long can a queen go unfertile before mating?

C. F. Muth thought about a week; D. C. Hersperger possibly 3 weeks; J. W. Bagby, in certain instances, 30 days.

C. F. Muth said there are exceptions in all rules, and freaks in nature with all females. Bees are no exception; the general opinion is that after 30 days' trial if unfertile, death must be her doom.

Several other interesting questions were discussed, after which the convention adjourned.

Afternoon Session.

Convention called to order, President Hersperger in the chair.

Committee on questions for discussion reported the following:

1. Best way to transfer bees from box to movable frame hives.
2. Best manner and time to Italianize a colony or apiary.
3. Best manner to cure a colony of a fertile worker.
4. Best manner of ripening extracted honey.
5. Why do bees swarm, and how to prevent swarming?

The questions were then taken up and discussed separately.

J. W. Bagby said the best time to transfer is the beginning of the honey season, as there is then an abundance of material to patch up all broken comb and fill up crevices. The statement was generally concurred in.

C. F. Muth said he did not approve of smoking bees drunk, in order to introduce a queen for the purpose of Italianizing colonies; he had known parties to use tobacco smoke to such excess that the bees were made drunk, sick and exhausted from the effects of it. He used only sweetened peppermint water, and sprinkled all the bees with it when letting the queen at liberty in the hive. He also said that the best way to cure a colony of a fertile worker is to find her as soon as possible after the fact is ascertained and kill her, and that the best German bee-masters have proven and declared that a fertile worker does not produce perfect or entire drones.

W. B. Herring got rid of fertile workers by taking the whole of the frames in the hive, with bees on them, and shaking the bees off, some distance from the hive. Most of the bees will return to the hive, but not the fertile worker. These opinions were generally acceptable to those present.

On the question of the best manner of ripening honey, C. F. Muth said: Some advocated the idea of having all honey capped over before being extracted. He does not believe in the theory, from the fact that comb honey is as apt to sour as extracted. He prefers each distinct kind of honey by itself, as near as possible. Apple bloom honey extracted at that time, locust honey by

itself, and during all the honey season he preferred and would advise each kind of honey to be as near the production of the different blooms the bees work on as possible. Ripen honey by exposing it to the air in open cans.

The Secretary said any well ventilated dry place would answer. The whole secret is pure air, ventilation and sunshine.

Secretary Williamson said that he had often thought that bee culture and its benefits had never been properly or fully presented to ladies as a light and profitable employment. The subject of bees and flowers are so inexhaustible, so indispensable to each other, and each so susceptible of care and cultivation by ladies, that a few hints on these interesting subjects may lead to others still greater. Bee culture, like all sciences, is full of research, and probably more fascinating than any. It is akin to botany, but even more interesting; in fact there is a certain mystery about the habits of bees that forever keeps the imagination waiting for some new discovery. The bane of bee-keeping has been stings; but modern improvements in bee culture, bee-veils, rubber gloves and smokers, properly applied, should be sufficient to dispel every fear, even of the most timid. Bees have been spoken of in the earliest history of the world. In the Bible, bees and honey are spoken of as possessing wonderful virtues. The ancients called the bee "Deborah," or she that speaketh. They have been called the "chief of geometricians," "a ray of Divinity," as "surpassing in architecture the skill of Archimedes," and "a magazine of the virtues."

When such authors as De Montford, Quintillian, Plutarch and Virgil, have made famous in history the virtues of the humble bee, I am led to believe that many a silent lesson in the economy of the world has been learned from the wonderful bee. That sweet and simple song: "How doth the little busy bee improve each shining hour," was taught us in childhood. We never forget it; it teaches us that the sweets of this life are offered to us all, as freely as the sweets of the flowery kingdom to the virtuous and industrious bee. If we but imitate these virtuous habits our coffers will overflow with the sweets of life. In fact, the whole study and practice of bee culture is refining, ennobling and elevating. Ladies are certainly adapted to bee-keeping, because as a general rule they love and cultivate flowers—the very perfection of virtue and inspiration. Bees and flowers seem inseparable. Where flowers are bees are, even in the deserts where the foot of man has never trod. In the cliffs, on the hills and in the valleys, may be found the industrious little bee sipping the sweets from the

> "Many flowers that are born to blush unseen,
> And waste their sweetness on the desert air."

What a wonderful mission these little workers seem to perform while gathering honey, which the Bible declares is "sweet to the soul, and health to the bones." They spread from flower to flower "the germs of life," of the sweetest things of earth's broad bosom. Let us provide abundant forage for our bees, fill our gardens full of flowers, and thus invite them to "Come and taste the sweets my garden yields, the bud, the blossom—all are thine." Every lady loves flowers, cherishes them, and at all seasons of the year they are her constant care. You, who will care for bees as for flowers, keep them. You who enjoy nature, pure air, healthful and invigorating exercise, keep them. I would not advise all ladies to keep bees; but to those who have time, inclination, and wish all the benefits, including the profits of bee-keeping, I say try a few colonies. Give them the same care and attention you give flowers, and I am sure the results will exceed your most sanguine expectations.

Second Day's Proceedings.

President Hersperger in the chair.

After some preliminary business, a number of questions were opened for general discussion, and each gave their experience on the questions submitted.

The following resolution was offered by F. P. Scearce and J. W. Bagby, and was unanimously adopted:

Resolved, By this Association that we condemn the use of glucose for feeding bees at any season of the year, because it is an impure sweet and an uncertain economy, and detrimental to the interest of bee-keepers in producing a belief that we are adulterating our honey; and, further, that we reaffirm our indorsement of the law passed by our Legislature two years ago at the instance of this Association, in regard to fine, confiscation and destruction of all adulterated honey not plainly labeled as impure honey.

C. F. Muth said that in Cincinnati adulteration of honey is carried on to a fearful extent, about equally with maple sugar. He has seen a druggist making honey composed of 1 lb. of honey and 5 lbs. of glucose; glucose can be bought at 3½c per lb. He said: I am sorry to acknowledge that nearly all of the ordinary syrups sold are impure and adulterated with glucose, acids, etc.; and,

honest to say, I have never yet seen a bottle of pure honey from either Chicago or New York. Sugar is cheaper at 10c a lb. than glucose at 3c.

The Secretary asked Mr. Muth if he had ever received or seen any impure or adulterated honey from Kentucky. He answered no, he had not. The Secretary said, nor need you ever fear of buying impure honey from Kentucky, even without the stringent laws on the subject. It is not in the country; it is rarely the bee-keeper who adulterates his honey; it is the large dealers, who could find it more profitable to use 1,000 lbs. of pure honey, at 15c per lb., and 3,000 or 4,000 lbs. of glucose, at 3c per lb., than to pay 15c per lb. for the whole.

Mr. Muth then read the following:

Our Bee-Hives.

Many arguments have been made in our country, as well as in the old world, about a uniformity of bee-hives. Much has been said in favor of deep frames, and as much in favor of shallow ones, and the most sanguine of our friends are convinced by this time of the impossibility of bringing about the universal use of a "Standard Bee-Hive." If a standard hive could be adopted and standard surplus boxes, much vexation and disappointment would be avoided. However, as we look at these things in so many different ways, and, as every one of us has a right to his own opinion, allow me, please, to express my views in regard to bee-hives.

The nests of bees built in hollow trees cannot well be taken as models, as the bees were guided in their construction by the shape of the hollow they happened to discover and made their home. More bees perish each winter in hollow trees than under the care of practical bee-keepers.

But when we observe the manner in which a strong colony hived in a common box hive, and during a good yield of honey, builds its combs, we find that the hive is filled almost exclusively with worker combs, which are apart from center to center just about 1½ inches, or a little less, with an open space of about ⅜ inch between every 2 combs. But little drone comb is built, and we find it generally to be the last comb on the sides of the hive and the lower ends of the worker combs. Such will be the case if the colony and queen are in a normal condition. A colony of this kind will be prosperous in the future, and the owner will say of it, that he has good luck with his bees. The reverse will be the case, however, if the queen is old, or shows signs of weakness, as the drone comb will then be predominant in the hive, and its owner does not know why that colony will give him no honey. He may say that the bee-moth got among his bees.

As stated above, a prosperous colony has worker combs built 1⅜ to 1½ inches apart from the center of one to the center of another comb, with a space between every 2 combs of about ⅜ of an inch. If we give them room enough, we find further that, when their combs are built 12 or 14 inches long, that the brood is in the lower third or lower half and honey in the upper part. If the bees want more room for brood, they build to the lower part of their combs, while for honey they add to the upper part. In this manner bees proceed when they have their own way, if they can follow their own inclination. Everyone who has done his share of transferring bees from box hives had a chance of judging of the correctness of this statement.

If we deprive a colony of the room above their brood to deposit their stores, they will put honey alongside, behind and in front of their brood, and even below it. During a good yield of honey I have seen comb built on the outside of a hive and filled with honey, extending about 4 inches from the hive and about 6 inches or more in length.

We can expect the best results when we assist nature to the best of our ability, and bees are no exception to this rule. A good bee-keeper can do almost anything with his bees, because he is acquainted with their habits, and does nothing again their instincts. When honey is to be had, he gets his share; he has no secrets.

I noticed some years ago at one of our fairs an old quack displaying his control over the bees. He was feeding from a vessel above them, and the bees were storing honey in a tumbler. A notice was pasted on one of the tumblers that bees must not enter it. The bees obeyed orders because he had greased the inside of the tumbler. Such tricks have ceased to be laughed at among intelligent bee-keepers. Wonders are claimed by some men for their hives, as if hives were doing it all. We can have good results in almost any bee hive, if it is only composed of movable combs and is easy of access to us. We may remove, one fine morning, the very obstacles to prosperity, which would take the bees, perhaps, all one season to accomplish.

It is therefore very essential to use hives which afford the greatest of comfort to our bees and to us. Bees must be looked over occasionally, as there may be something to clean up or cut out, the combs in brood chambers may have to be rearranged to promote breed-

ing. Queen-cells may have to be inserted, or a young queen introduced. If you come across the passage of a moth-worm under the capping of your brood combs, and pull him out, you have done something which paid you well for the trouble of opening your hive. If a party tells you that bees get hurt when opened you may depend on it that he is a poor bee-keeper, or that he, at least, does not understand how to open a hive of bees. I had frequently a comb in my hands with the queen quietly keeping on depositing her eggs. A good bee-keeper should always be acquainted with the state of every one of his colonies, that he may know what to expect when the honey season comes.

There is, in my estimation, no hive which combines so many advantages and has less objectionable points than the Langstroth. The only objection made to it has been that the frames are too shallow for successful wintering; an objection which hundreds of us, for years past, have proved to be none at all. We winter bees in Langstroth hives as successfully as bees are wintered at all, and Langstroth's disciples are counted among the most successful bee-keepers in the country. The shallowness of the brood frame with the honey chamber immediately above imitates nature closely, and is apt to give us the best results; consequently, we must keep in view that not wintering alone is our object, but a full honey harvest. Give me, therefore, a shallow frame, just deep enough to insure successful wintering.

From the above we have seen that bees, if left to themselves, keep their brood close together and store their honey above. It should be our aim in early spring to get those 10 frames composing our brood chamber filled with brood. By the aid of division boards we can give our bees just as many combs as they can well cover. They can control their temperature better in a smaller apartment, and breeding is promoted. Their frames will be filled from end to end and from top to bottom, when, without division boards, we find small patches of brood in twice the number of combs, but amounting to not half the quantity of brood. We should at no time allow a vacancy in any one of our hives, if we care for the welfare of that colony.

When using division boards we must examine about once a week and add an empty comb as the number of bees increase. Division boards should not touch the bottom by ½ inch, as bees will help themselves lively from combs of honey hung on the other side.

Our 10 frames being filled with brood at about the beginning of the honey harvest, we may put our sectional boxes on (1 at a time is perhaps best), and add another just as soon as a lively progress is noticed. We have then large colonies, and may not only expect large returns, but, as there are so many young bees hatching all the time, the queen is kept busy refilling with eggs those cells just vacated, that no swarming fever may arise, if the necessary room to store honey is given above.

When the queen has the necessary room to deposit eggs, and the bees have the necessary room to deposit honey, no swarming will take place. This we may set down as a rule, but there is no rule without an exception. A queen may be crowded for room, when a comb filled with honey hangs on each side of the brood. No difference how many empty combs hang on the other side. So many bees, especially Italians, will be crowded for store room if we do not give 1 full comb above, serving them as a ladder to run up on.

The Secretary said he was glad to see Dr. R. L. Spurr present, an extensive bee-keeper, and Vice President of the Kentucky Agricultural and Mechanical Association, the gentleman who is entitled to all the credit of any and all recognition the bee-keepers of Kentucky have received at the hands of the Association, of which he is an excellent officer.

Dr. Spurr answered that, as a member and officer of the Kentucky Agricultural and Mechanical Association, he took great interest in the encouragement of bee culture; in fact, is a warm advocate of bee-keeping interests, and feels sure the Association of which he is an officer will meet the wishes of the bee-keepers in a liberal spirit, and, as we are intending to build a large hall in which we can give you ample accommodations, I hope to see a grand and full display, not only of honey, but of every implement and hive in use; also bees in observation hives; in fact, everything that will tend to dispel the too prevalent idea that bee culture, bee-keeping and bees are insignificant; for there is not a nobler occupation I know of, and no study, no history I have ever took more interest in than bee culture. Although I have never had the time to attend your conventions my best wishes were with you. I have been a student of bee culture these many years, as these gray locks will attest.

On motion, Dr. Spurr was unanimously elected an honorary member of this Association. Dr. Spurr thanked the Society for the compliment, and

said he hoped to see the bee-keepers fully and completely represented at the fair next fall, for they are the men to show the people what bee culture and bee-keepers can do.

Mr. J. W. Bagby read the following essay on

The Value of Comb in the Apiary.

The value of comb in the apiary is generally known among bee-keepers, consequently the value of the extractor is apparent.

It is not necessary that bees should starve to death because we use the extractor. One bee-keeper says I got a large amount of honey, but my bees all died. Another reports getting his extractor too late for the honey season, but in time to extract his bees to death. This all comes from not knowing how to use the extractor. Now I will attempt to give a plain method of extracting the honey, and getting good results from bees almost any season when there is a good flow. We will first take a colony of bees with a good supply of comb; as soon as we have all the frames in the lower chamber full of brood, or nearly so, we will raise about 2 frames of the worst brood combs to the upper chamber, filling their place with empty comb, or start the bees above and fill the upper chamber with comb. If you have drone comb it can be used at this time. Now we may extract almost as fast as the honey is stored, otherwise just keep it out of the way of the bees. Set your honey in open cans in a warm dry room to evaporate or throw off impurities. This course may be continued until the best flow of honey is at hand. At the time we are satisfied our bees are gathering the greatest amount of honey of the season, then we make a half extraction, leaving 5 or 6 frames full, and let them seal or cap over these frames for wintering, and the remaining frames may be extracted as often as the occasion may require, but not extract from the 5 or 6 any more. The best part of the honey season in this climate is from the 15th of June to the 1st of July. The full crop of honey in this climate is uncertain. Now the main thing is not to extract too late or too close late in the season; but at the beginning of the honey season we may take almost all of the honey from a hive.

The best way to start a colony in the upper story, when scarce of comb, is to raise several frames from the lower chamber and supply their place with empty frames, and alternate above with the same.

The Secretary said he took great pleasure in presenting to this Association, from Thos. A. Hutchcraft, a beautiful and well preserved specimen of petrified honey comb, which was discovered in a small cave on Glenn's Creek, near Frankfort. In doing so Mr. Hutchcraft desires that it shall be left in the custody of the Secretary, and go towards forming a museum for this Association, and, should this Association fail to form a museum, then the Secretary is to forward it to the State geologist, Prof. Shaler, to be the property of the State, for the museum at Frankfort.

On motion, the following committee was appointed to confer with and indicate to the Kentucky Agricultural and Mechanical Association the wishes of this Association in regard to exhibits at the next fair: W. Williamson, Ollie Reed and F. P. Scearce.

Nominations for next meeting were declared in order. The Secretary put in nomination Winchester, and J. W. Egbert, Harrodsburg. Winchester carried, and it was unanimously resolved that this Association adjourn to meet in Winchester, Ky., on the second Tuesday in April, 1881. W. Williamson, *Sec.*

Western Illinois and Eastern Iowa.

The seventh semi-annual meeting was held at Monmouth, Ill., April 29 and 30, 1880, and was the best meeting our society ever had, with the exception of the one at Hamilton, Ill., on May 6, 7, 1879. The Court House was well filled with as jolly, sociable and wide-awake an assemblage as one could wish to see. The ladies turned out in goodly numbers, and added very much to the pleasure of the occasion. The meeting was called to order at 10 a.m. by the President, L. H. Scudder, of New Boston, Ill.

Messrs. C. P. Dadant, Dr. H. J. Scoles, Rev. O. Clute, E. D. Godfrey and T. G. McGaw were appointed a committee to arrange the questions handed in for discussion. Each question was fully and freely discussed, but we can only give the main points in the space alloted to us.

Topics.

Which Is the Best Way to Unite Colonies in the Fall?

D. Rider—I take out all the empty combs and brush the bees into the hive I wish to keep, and put in from both colonies the combs containing the best honey and brood. I intend to equalize the pollen and honey among all my colonies early in the fall. I have no particular way of uniting; just dump the bees in any way, and do not kill any of the queens, let the bees do that themselves; have practiced this mode for 20 years.

O. Clute—If there were any choice between the queens, the best one is as liable to be killed as the poorer one. I think the better way is to select and save the best ones. In cool weather bees are less liable to fight when united, and by the time the

weather is warm enough for them to fly they have got used to each other.

E. D. Godfrey—If friend Rider was selling a lot of cows, would he sell his best cow for half price? Then why does he do thus with his queens, where there is as much variation in quality as among cows? I keep a record of all colonies, and know just what each colony does. I had 120 colonies; I selected 40 of the best, as regards combs and quality of bees, to keep. The next best 40 I sold. The poorest 40 I united to make good colonies. I killed the poorest queens a day or two before I united. I took the brood from the killed queen and put it in the hive to be united with it, putting the bees on other combs in the upper story. They gradually go below and unite without any trouble. If I had no 2-story hive I would use a wide cap for the same purpose. It is natural for queenless bees to go where there is a queen. If you put a queenless colony beside one that has a queen, 9 times out of 10 they will go together.

Jas. A. Simpson—I have tried Mr. Godfrey's plan; it is very successful. But we have hives scattered all over the yard; if warm days come soon many bees go back to the old stand. I take bees out of both colonies to be united and shake all together in one box; in 30 or 40 minutes put them in a hive, and give best combs from both hives, and they will stay without going back.

E. D. Godfrey—Place a little board in front of the entrance; it causes the bees confusion, they will more readily relocate their hive, and prevents their going back. If left queenless awhile, it helps very much.

O. Clute—I have found the board in front of the hive to be very effective at any time of the year. There is something new and strange about it, and it is a complete success. Mr. Bingham stated, at the National Convention, that bees can be moved after the honey harvest is over without any trouble by adopting this method.

D. Rider—I smoke both colonies thoroughly, disturb them all I can, interchange frames, brushing off the bees; they relocate, and I never lose a bee.

O. Clute—Is the atomizer useful in uniting?

L. H. Scudder—I have used it with success.

In running for extracted honey, is it bettter to have a two-story hive or a single long hive?

Jas. A. Simpson—I have never used any except the 2-story hive, and hardly ever take honey from the brood chamber. The bees will occupy almost the entire lower story with brood.

C. P. Dadant—I agree with Mr. Simpson; give the bees ample room above and they will rarely crowd the queen for room below. Through the clover yield we extract from the lower story to some extent.

Jas. A. Simpson—It is the universal expression that well ripened honey is the best to winter on. I extracted from the brood chamber one fall, and they filled up for winter with the late fall run of honey, and I had a feaful loss of bees, which I laid to the late gathered honey.

C. P. Dadant—I do not believe it was extracting from the lower story that killed the bees, for we always do it when needed.

O. Clute—I noticed in one of Mr. Doolittle's reports that he got 566 lbs. from each of two hives; he used a long hive of 20 frames; kept the brood in the center, and extracted from each end.

C. P. Dadant—We have 60 American frame hives, of 16 frames each; have tried side and top frames, the top ones were filled first; the bees will crowd the brood before going into the outside frames.

Will. M. Kellogg—I used to work exclusively for extracted honey, and used a good many long hives, some of 20 frames each, and a good share of the time the queen crowded out the extractor; have had 18 frames out of 20 so filled with brood as to be unfit for extracting. Extracting from the brood chamber, if rightly done, makes strong colonies.

D. Rider—I find the bees prefer the upper story to side combs.

L. H. Scudder—I have had great trouble in keeping the queen from the upper story.

C. P. Dadant—I do not think your hive is large enough (10-frame Langstroth).

Jas. A. Simpson—My hives differ as to top story; some have a half inch board between the two stories, and some with no bottom. I find where the queen goes above at all, it is almost invariably in those with no board between. I can see no difference as to yield of honey in the two ways.

O. Clute—It might be wise to consider that where you extract from the brood chamber you get a larger amount of bees thereby. As the rearing of brood largely is one of the main features, it seems to me quite possible that this is the reason of Mr. Doolittle's success.

Jas. A. Simpson—I have reason to believe that Mr. Doolittle's success is due to hives packed for that purpose. I have done it myself, but cannot get such results from all my hives.

Many present expressed the opinion that nine-tenths of all our big reports come from packed hives.

E. D. Godfrey—I think we should use a hive adapted to both comb and extracted honey. Have deep caps, have the brood chamber of one certain size, and have the upper story of the same sized frame as the lower story. I want my hives all alike.

C. P. Dadant—There is a great deal of difference in taking out honey when it is ready, or waiting to take it all out at once. Frequent extracting is best.

Jas. A. Simpson—I prefer a small frame for the upper story, as it is more evenly finished, and ready to extract sooner than the larger frame.

T. G. McGaw—I have used 2 long hives, and the only advantage I can see in them is that you can have a case of sections on top at one end, while extracting from the other.

Why do bees in apparent equally good condition, winter with different degrees of success?

C. P. Dadant—Apiaries located near each other, with the same treatment, turn out very differently. This last fall we got no fall honey, and we fed some sugar syrup. One apiary wintered well, the other with ⅛

loss, and is not in good shape now; many of the queens, even, appear sickly. The hives are all alike; the caps filled with leaves, space contracted inside, and well filled up. One suggestion is the location as to dampness of the atmosphere. The one that wintered well was close to the river, the other 3 miles in the country near low lands, and has always wintered the poorest of any of our apiaries. Till last year this apiary has always had a large fall crop of honey; last fall we got none from it.

Jas. A. Simpson—My experience in this respect has been varied. I had 2 apiaries half a mile apart; one had a cellar covered with straw; it was snowing at the time I hauled the straw to cover, and it got a layer of straw, then one of snow. The other one had a wall of dirt 2 feet thick; dry straw on top. The first one was very damp, of course. The bees in the 2 cellars wintered about equally well. Location, flight and pasture about the same. The bees in the damp cellar were most all Italians, the other nearly all blacks. The Italians seemed to carry in the dripping water from the entrance. The Italians wintered the best, if anything.

How shall we prevent the rearing of an excessive number of drones?

E. D. Godfrey—Cut out all drone comb, and save it to use in the sections.

Jas. A. Simpson—That will not always do. The bees will sometimes raise drones in worker cells when they have no drone comb. Cut off their heads with a honey knife just before they are ready to hatch.

L. H. Scudder—I have known bees to lengthen the worker cells to raise drones in.

C. P. Dadant—Cutting the heads off is poor policy; bees cost more to raise than to feed after they are hatched. They will not raise many drones in worker comb.

E. D. Godfrey—Keep good, young queens, and bees will not trouble you much with drones if you keep out the drone comb.

O. Clute—I have had no trouble with too many drones. I use a great deal of comb foundation, and thus have all worker comb, and think that, and keeping queens young and vigorous, the best way.

C. P. Dadant—I noticed an instance in France, where one colony had all worker comb, and raised a few small drones; another had all drone comb; the colony was kept up from other hives; the queen laid very little, and the bees made the opening to the cells narrow and raised worker bees in them, but only raised a few bees during the summer.

What is the earliest time that any one present has discovered drones flying in the spring?

H. F. Putnam—I saw them this spring in February and March, but think they were raised last fall, as there was no brood or queen in the hive.

Jas. A. Simpson—I saw them last season very early, but they were from a last year's drone-laying queen.

It is 1½ miles from my apiary to the edge of white clover, the clover extending 1½ miles further; will it pay to move my bees for the white clover run?

L. H. Scudder—I would prefer to move on some accounts, but hardly in this case.

O. Clute—Much has to be taken into consideration in a question of this kind; the effects of wind in flying, hills to keep off the wind, or for the bees to fly over. If there is likely to be much wind encountered, I think it would pay to move.

Which is preferable for use in the sections, drone or worker comb foundation?

D. Rider—We discard all the drone comb we can, and in extracting kill off all the drones. We prefer the worker comb foundation every time.

L. H. Scudder—Prof. Cook, in his book, says drone comb above is better. I never thought the subject debatable at all. Would it not be better for us to have workers raised in the sections if the queen gets up there at all?

C. P. Dadant—Bees do not put pollen in drone comb, while they do put it in worker comb, and in the sections, too. We prefer worker foundation.

T. G. McGaw—When honey is coming in very fast, bees build much drone comb. I would a little rather use drone comb.

C. P. Dadant—When we compare the difference in rearing drones and workers, the workers are ahead by all means.

L. H. Scudder—If the bees were furnished drone comb at the start, I am inclined to think the queen would be more apt to use it. If worker bees are reared, no loss occurs.

Geo. Bischoff—I let my bees build comb as they please; they will do it anyhow. I prefer worker foundation.

E. D. Godfrey—I save all drone comb and use it in the sections, that is any way light enough, and have very few drones above. I use very thick foundation.

L. H. Scudder—I was annoyed the past season more than ever before; had whole sections filled with drones.

What are the prospects of bee-keeping?

T. G. McGaw—I think the days of fancy prices for honey have gone by. There was a time a few years ago when honey sold for 40 and 50 cents a pound, but I think hereafter what a man gets out of bee-keeping will be done by hard work.

O. Clute—That is a question that is easy to make a long speech on. Now, suppose we think only of low prices for honey, and that many are going into bee-keeping, and look at it from the gloomy side; do a great deal of dolorous croaking, we should go home with a strong desire to sell out. One always hears such croakings at all meetings. At the farmers' club meetings there is the same talk of low prices, how many there are taking up farming for a living; but farmers have been doing about as well as usual, dairymen are doing better, the markets are getting better for American butter and cheese. In spite of all croaking these interests of farming have gone forward. Men and women who have kept courageously at work have made good progress in the onward march; those who stick to it

through all discouragements are doing about as well as any departments of farming. It is the same with our bee-keeping interests. It is not always advantageous to have a large number of persons go into any kind of pursuit. Crops sold at low figures create a demand from those who, before the low prices came, had no idea they could buy these products. It is precisely the same with honey, the low price caused it to be bought by every class of people; they found that honey could be got cheaper than before, and acquired a taste for it, and hence it enlarges our field of consumption. Though honey does not sell at so large a price as formerly, we sell a great deal more of it. I do not think we need to be alarmed and want to go out of the business if we are already well established in it.

L. H. Scudder—The competition of California honey has been spoken of. I have no fears on that point. I am acquainted with a party living there who produced 52,000 lbs. of honey. He got $1,500 for the year's work, and has quite a large interest there. In 1879 he got no honey, but paid out $500, and has only $1,000 as his profits for 3 years. It does not seem possible to me that we need fear California honey. It does not really injure our market; it was our own immense surplus that created the glut of the market. I remember well when we got 30 cents a pound for our honey, but we only had a small crop. What do high prices amount to with nothing to sell? We made more last year with low prices than we did before, for we had a large crop, and sold it, too. There are not as many bee-keepers now by at least one-half as there was 1 year ago. Every poor year cuts off as many or more heads than a good year will produce. I have been at it a good while, and am willing to try it longer and make success a surety.

S. Bittenbender—We sold honey in Iowa at 15 cents. The grocers got some California honey, but had to sell it at 18 cents to be profitable, and could not sell it till our Iowa honey was all gone. I believe we can produce honey by providing pasturage as cheaply as they can raise it in California.

Mrs. L. Harrison—We sold none of our honey less than 20 cents, and from that to 23 and 24 cents, and sold at home; our customers came to us, we do not have to hunt for them.

O. Clute—Our foreign markets are relieving us of our large crop of honey; we are exporting great quantities, and we have the markets of a whole world. California does not have good honey years very often; consequently we do not have their honey to compete with only now and then.

Jas. A. Simpson—A few years ago I took the position that we would have to sell our honey as cheap as syrups in order to dispose of it. Honey is yet a new thing; it is not in demand like staple groceries. When I first began to have extracted honey by the barrel, my neighbors said it could not be honey; he gets too much of it, he makes it of sugar. Honey has got to work its way into use. I wrote to Pennsylvania to see if I could sell a barrel of honey, and was laughed at. A barrel of honey! I hope for a law in regard to the adulteration of food. Honey is a luxury. Hard times are over, we are told. This will help us. We are some like the Irishman rolling down hill on a log; his companion yelled to him, "Stick to it Jaimie, ye're on top every other time."

C. P. Dadant—In regard to the sale of honey for the present year, there need be no alarm, for there has been a very great loss of bees in Europe. With few bees, and a small crop there last year and the present one, there will be little honey in our way.

L. H. Scudder—I notice our sales of extracted honey in Europe are on the increase. The markets of the world are nearly bare of honey at this time.

Relative merits of Italian and black bees.

Dr. H. J. Scoles—I have had a little experience with both, and prefer the Italians, especially in a poor year for honey. They are more peaceable, of course, and keep their hives more free of moth. Blacks we have to help, the Italians take care of themselves, usually.

S. J. McKinney—I am a black-bee man in a small way. I began with blacks; was very successful that year; my colonies sent out heavy swarms, I divided some, and lost by it. We have had all the honey we wanted to eat, and I will not make any report till we have more than we can eat at home.

Thos. Dunn—I got Italian queens from Messrs. Dadant and Simpson. My Italians gave me a surplus, my blacks hardly lived.

S. Bittenbender—I would prefer the Italians, but I believe too much is claimed for them; they have been bred up by judicious selections of the best and most prolific queens, while the blacks have been bred down, we might say. Who takes the pains to select and breed from the best black queens? I believe the Italians will run down the same way if neglected. The Italians need watching more than the blacks. Keep your black colonies strong and they will take care of the moth, too. As to blacks running off of the combs, I do not care where my bees travel to, if they do well otherwise. In looking through a hive of blacks we can see the combs much better than in an Italian colony. The blacks will come in on the home stretch equal to the Italians. I believe the blacks can carry as much as the Italians, but they want better wages. I admit that the Italians will work better on a short crop. I have 60 colonies of bees.

E. D. Godfrey—Italians consume more honey in rearing brood, which is one reason why they are apt to get short of stores.

S. J. McKinney—I have seen statements that one bee carries in a teaspoonful of honey during a season. If you reckon up what the whole colony will get, it will not amount to 200 or 300 lbs. per hive, as some tell of.

Question: Do Italians get honey from red clover?

H. F. Putnam—I keep both Italian and black, and do not think either of them get honey from red clover.

Jas. A. Simpson—I have no queens for sale. I think too much has been said on the superiority of the Italian bees, and think blacks could be bred up to as high a grade as any Italian. For extracting the blacks are away ahead, You cannot brush the

Italians off the combs. There are advantages and disadvantages in both kinds of bees. I doubt if any bee ever gets honey from red clover. "Bumble" bees get red clover honey; it has a very peculiar flavor, and I never once tasted it in the common bees' honey. They get pollen only, I think. The Italians are surely a longer-lived bee; if you change the queens in two hives, give one an Italian and the other a black queen, both young and vigorous, it will be found that there are Italians in the black colony longer than there are blacks in the Italian. The weight of my hives tells the grade of the bee, the heavier the hive the nearer pure Italian.

E. Child—We remember the taste of bumble bee honey in our boyhood. My daughter asked me the trouble with some honey we had on the table. It was very strongly charged with red clover honey.

L. C. Meadows—If one can judge from the strong scent of a red clover field, if the bees could reach the honey, a half section set with red clover would supply all Chicago.

E. Child—I do not know that bees get honey from red clover, but have seen them at work on it. We get Spanish needle honey and can not eat it; it tastes just as Spanish needle smells. Red clover the same.

L. H. Scudder—As to flavor of honey, I have put unfinished sections of white clover honey on to the hives in the fall, and it was taken off as golden rod honey. Had whole sections flavored with the golden rod; uncap it and the golden rod flavor was gone.

C. P. Dadant—Comb honey that is white in the spring becomes colored in the fall by something the bees use.

L. H. Scudder—I do not think the caps are all wax. I had 60 lbs. of cappings, and only got about 30 lbs. of wax from it. I think it contains pollen.

Jas. A. Simpson—Have observed the same thing with heartsease; as soon as buckwheat came in bloom the nicer article of heartsease honey was changed to buckwheat.

L. H. Scudder—With the experience I have had I would prefer the hybrids to the pure bees for comb honey. Pure Italians are loth to go into the sections; will build from the bottom upwards. Never knew the blacks to do it.

How many bees may be kept with profit in one apiary?

C. P. Dadant—It depends altogether on the location. In some not more than 50 colonies could be kept; it will average from 100 to 150 colonies to an apiary. The bees reach from 1¾ to 2 miles each way. Apiaries ought to be 4 miles apart.

S. J. McKinney—A man below Burlington has 200 or 300 colonies, has a large range, gives them very little attention, has good success, seldom loses any bees.

C. P. Dadant—I do not want bees close to a large sheet of water, so they have to cross it to get their honey.

Jas. A. Simpson—I think 60 to 100 colonies will get all the honey in the range of their flight in ordinary seasons.

C. P. Dadant—We have to find how many can make as much per colony as one can.

L. H. Scudder—I think much more depends on location than the season. Seasons change and vary the yield in the same locality.

What is the cause of bees leaving their hives in the early spring, when the hive is in good order and plenty of honey?

C. P. Dadant—I confess I cannot answer that.

L. C. Meadows—I have been troubled very much with this disease, if we may call it so, and would be very much pleased to know its cause.

[Many cases of bees swarming out were given, but no good cause assigned as a reason for it.]

What is the cause, prevention and cure of spring dwindling?

E. D. Godfrey—I got very tired of carrying bees out and into a cellar. I have used a chaff hive for 5 years. I begin feeding my bees in September, after the frost kills the bloom, to stimulate brood rearing, which gives me a strong force of young bees to go into winter quarters with. My bees are always strong, and I am never troubled with spring dwindling. Changing weather in spring does not affect bees in this hive; a slightly warm day does not cause the bees to come out and get lost in the cool winds, as it does with the 1-inch hives. Colonies in these hives never have dead bees under outside combs.

S. J. McKinney—I do not think thin hives are so good for bees. Corn cobs are good to ventilate the hive and absorb the moisture; the bees will take it out of the cobs and use in place of water.

E. D. Godfrey—I claim that one cause is that bees are wintered in doors and have to be taken out of the cellar at a time when they need protection from the cold winds the most of any. They are not used to nor prepared to stand the changes in the weather as those that have been out all the time.

O. Clute—It is no matter how you protect the bees; if we keep them from the sudden changes we will save them.

Jas. A. Simpson—I think this wintering bees has been overdone. Have had bees winter with no bottom boards to the hive, and bees all exposed to the full force of wind and weather, and came through in tip-top condition, while one in a house fixed for it came through in bad shape.

L. H. Scudder—I have been troubled with this dwindling very much. I think the balance of expense in wintering out or indoors is against outdoor wintering. Will not the amount of honey saved by the cellar much more than pay for taking the bees out and in once or twice, even if we hire it done? I have less trouble with my hives faced north every time, with a board up to keep out the direct wind. When faced south thousands get lost, while those facing north had no bees flying at all. Those facing north gather more honey for me than the others.

C. P. Dadant—We had once 26 colonies facing north, and very many died in the spring. One apiary faces south on a warm hillside, and winters best of any. Have had

more loss from those facing north or northeast than those facing south or southeast.

L. H. Scudder—Perhaps you would not if in an open country, as I am.

O. Clute—I had a long talk with Mr. Jones, of Beeton, Ont.; he thinks the much less amount of honey consumed in the cellar would more than pay for all expense of building and moving. He found that bees in a cellar use 7 to 8 lbs. per hive less than those wintered out.

L. H. Scudder—The past winter is no criterion to go by in wintering out or in. Take the winter of 1873 or 1874; if your bees did not freeze in such a winter they never will.

E. D. Godfrey—I wanted to show Mr. Scudder that in Michigan, the old stronghold of indoor wintering, over one-half are now wintering outdoors. Bee-keepers are changing, and I think in 5 years the great bulk of bees will be kept the year round in the double-walled hive.

O. Clute—We had a very cold winter a year or two ago. We must compare various ways, and adopt that plan that proves, on the whole, to be the most successful.

C. P. Dadant—A good many have no place to put their bees away for the winter; three-fifths of our own bees were wintered out because we had no place for them.

Jas. A. Simpson—We all know bees form a compact cluster in cold weather, and if the cold is long continued will starve right there, being unable to leave the cluster for more food. During the winter of 1873 and 1874 the thermometer ran below zero for several weeks, and we had colony after colony perish with an abundance of honey in the hive, and think the chaff hive would not have kept them.

Question by E. Child: What is the proper temperature of a cellar?

Dadant and Putnam—Above 40° and below 48°.

Adjourned at 5 p. m. to meet again at 7:30 to listen to a lecture from the Rev. O. Clute, of Iowa City, Iowa.

Mr. Clute chose for his subject a topic that would interest all alike, "Marriage and the Home." The seats were all occupied, and the marked attention of the audience gave evidence of their deep interest in the speaker and the subject. Mr. Clute is a thorough scholar; his language is easy and well chosen, and he uses no superfluous or unintelligible terms.

Morning Session--April 30.

Which will produce the best results in surplus honey, an 8 or 10-frame Langstroth hive?

T. G. McGaw—I have always used the 10-frame hive, but think the 8-frame the best for comb honey.

Mrs. L. Harrison—We think we get the most honey from the 8-frame hive; nearly all of ours are of that kind. We sometimes winter in 10-frame hives, but change in the spring. Nearly all the Wisconsin bee-keepers use the 8-frame hive.

Jas. A. Simpson—Are not the outside combs of an 8-frame hive filled with honey to the exclusion of the queen?

T. G. McGaw—They will fill those frames late in the season to a great extent. Smaller hives will swarm the most.

C. P. Dadant—Bees bring in pollen in the spring constantly, if only 8 frames are used where will they put it? The consequence is the hive is crowded, and the bees swarm much more without corresponding results in comb honey. We think a hive above the average size better than one below the average. Quinby calculates 2,000 square inches, which is about a 10-frame Langstroth hive. We would prefer 10 frames or more.

L. H. Scudder—I am in favor of the 10-frame hive. Never found they were too large for comb honey. To keep down increase, I find we need to use a good large hive and keep them well shaded. To get increase, of course we must use a small hive. It certainly takes the bees longer to fill a large hive, but I have had it done in 5 days. A man near me is using a hive as small as 8 inches square. He gets an abundance of swarms, but no honey.

The following essay was then read by Mr. L. H. Scudder:

How to Make Our Chosen Avocation Reasonably Profitable.

This subject has cost us much thought and investigation, and still the problem remains unsolved. Various schemes have been tried by which we hoped to realize good prices for our products, but, we must confess that while at times the prices were remunerative, in the main they have been very unsatisfactory, and still the tendency of the honey market is not in favor of the producer. The problem which demands our careful and earnest consideration is, how can we command good and uniform prices for our surplus honey? This, to-day, is the question of more vital importance to us than all other questions combined; for, upon a proper solution of it, depends our very existence as apiarists.

I will briefly glance at the past to show why I believe we must adopt a different method of disposing of crops. With the advent of scientific bee culture in this country, an advanced price was readily obtained on the products of the apiary, not that the public discovered that honey was any more palatable or wholesome, but that it was thrown on the market in a more attractive shape. No sooner was this discovered than a strong rivalry was engendered, which has culminated in flooding the market with honey in neat clean packages, until the most fastidious customer cannot fail to be pleased. Now it is very clear that sales cannot hereafter be made because of superior style of package or finer appearing honey, therefore it seems reasonably certain that a general system of marketing must be adopted. How can this be best accomplished? It was suggested at the National Convention in Chicago that producers could in a great measure control the market by concentrating the honey trade; that is, by selecting one or two good firms in each of the great cities to handle our products for us. H. A. Burch, in the April number of the AMERICAN BEE JOURNAL, favors a similar plan.

I take it that these parties mean a selection of firms who will receive our crops and sell them on commission. If that is what

they propose, I am inclined to believe that there are some serious objections to the plan. We will admit, for the sake of the argument, that the large producers may be able to select parties and make satisfactory arrangements for the sale of their crops, but how, let me ask, are you going to induce the "small fry" to send theirs to the same parties? Will they not, as heretofore, send to the first commission house they hear of? Will not a large proportion of the 300 commission houses on South Water street, Chicago, receive consignments in this way, and will not the same rule obtain in all the other cities? Now, suppose all these obstacles could be removed, how long would the average apiarist be content to send his crop to market and be compelled to wait for returns till said crop could be sent to Europe and there disposed of? Can you see anything very flattering in the prospect?

We believe that the laws of trade will eventually control the honey market to the same extent that the markets for all other commodities are controlled; the law of supply and demand alone would regulate the matter if producers would only act with ordinary prudence.

Producers of honey should at all times endeavor to keep themselves thoroughly informed as to the amount produced in all countries with whom we trade; then it will not be very difficult to make a fair estimate of the value of our crops. The want of such knowledge has been the prime cause of the unsettled condition of our honey markets. Let me illustrate: A case in my own neighborhood will show clearly how it works. A party living a few miles from our town raised a few hundred pounds of choice white clover honey in 2-lb. sections, last year, and, as a matter of course, took it to our town (that being the market) for sale. He had made no effort to inform himself as to the value, and the party to whom he offered it being equally ignorant, finally paid him 8 cents per lb. for it. I presume hundreds of similar transactions occurred throughout the country.

I cannot close without mentioning one very bad habit we as honey producers have been guilty of: I refer to the reckless and ruinous manner in which we have forced our products on the market, the entire crop going in during a period of 2 months or less annually. Is it surprising that the market becomes depressed and a ruinous depreciation follows? If such a policy was pursued with cattle, hogs or grain, how long think you a market could be maintained? Heretofore our means of obtaining information were so meager that we were somewhat justified in doing as we did, but now that we have daily and weekly quotations in addition to the monthly reports in our bee papers, we have no excuse for wrong doing.

It is claimed by some that our conventions are working a great injury to the honey-producing class, in that hundreds are induced to embark in the business, thereby overstocking the markets and depressing prices. Now I am firmly convinced that one bee-keeper who does not attend conventions, nor take the bee papers, will work more injury to the honey markets than any ten who use all available means to inform themselves; they are the very persons who throw their miserable products on the market to bring what it will, and you who have seen it, will agree with me that it was dear at any price. But it is to include such stock as this that quotations have so wide a range, thereby appearing so vague as to be almost worthless. Let us work on with the hope that time will bring all things right.

C. P. Dadant—In selling honey the greatest trouble comes from small producers, farmers, etc., who take to market their honey in all shapes, and take what the grocers offer them; they never take it home again, if they only get 6 cents a lb. To sell honey well, we should furnish it in the best shape. We have a set price for our honey, and hold it at that, preventing the beating down of prices by buyers by going from one commission house to another. I believe we ought to all set our price and hold our commission men to that price, but do not think it best to give it all to one or two firms of a large city.

Jas. A. Simpson—I think the same as to commission men, but find a market at home as much as possible. In 1868 or 1869, I sold 21 barrels of extracted honey at home at 75 cents a gallon. It was looked on with suspicion; could hardly sell any of it outside my circle of personal acquaintances, but soon worked up a trade where I could sell 40 gallons a day in a town for awhile. Get yourself known, sell a good article, give good measure. I have no fear of overstocking my home market. I would go west, or send into the farming country, rather than send to the large cities.

E. D. Godfrey—I do not believe in selling honey at 5¾ cents a lb.; it does very much to injure our honey trade.

T. G. McGaw—Such sales have injured my trade right here in this city. It spoils my market for extracted honey. I never sold any for less than 10 cents.

Jas. A. Simpson—I am a free trade man, sell where I can, get the most I can, and buy where I can buy the cheapest. I have been compelled to sell my honey for a low price. I am afraid to ship honey to Chicago and other places; they claim leakage, etc., that does not exist, and growl about its being granulated.

C. P. Dadant—In the last 2 years we have sold 30,000 lbs., and almost all of it was granulated. It netted us about 10 cents a lb. We only handle extracted honey. Can only sell about 6,000 lbs per year near home.

Mrs. C. M. Kingsley—We never sold any honey at less than 10 cents a lb., and do not have to go away from home to sell it; we sell about 1,000 lbs. a year.

C. P. Dadant—As to leakage we put up all our honey in tin cans, well labeled; they do not leak. We do not get returns till all is sold, but nearly all commission men give drafts for nearly all they have sold for you.

Who are best qualified to select good queens, the bees or the bee-keeper?

T. G. McGaw—The bee-keeper is, undoubtedly. Many a poor queen is kept in a colony and doing no good, when the bee-keeper could remove her and put in a good one.

D. Rider—If a swarm comes off with 2 queens, how can we well decide which is best.

T. G. McGaw—Let the bees choose in that case.

S. J. McKinney—I think bees have some instinct as well as other animated things, and that they can choose a good queen as well as a bee-keeper. If they get a poor queen, they soon supersede her.

Afternoon Session.

The following letter from one of the Vice Presidents was read by the Secretary :

Kind greetings to pleasant friends. As the time draws near for the meeting of our Society, I find myself thinking much about it, and should like to be one of those present, but as circumstances are inauspicious I shall have to forego that pleasure, but shall try to be with you at the fall meeting, the location of which arrange among yourselves, and count upon my concurrence therein. I shall look forward to the AMERICAN BEE JOURNAL's report of the meeting with much interest, as I am feeling somewhat discouraged, having lost most of my bees during the past winter, only saving 9 out of 23 colonies. Uniting and fall feeding seemed to be successful, until there came two or three cold days about Christmas, when all such died, with feed by them, on summer stands, with quilts over them. Also, I am doubtful about the February feeding, whether it did not do more harm than good. The honey season must be very late, for the weather has been so very windy that the poor bees can scarcely do anything. The usual supply of hazel pollen was nearly all cut off by a severe frost in March after the blossoms had partially opened. Last week there were two or three good days in which they gathered honey from the peach, pear and gooseberry, and pollen from the plum, and now, better than all, there is an abundance of apple bloom, 80 or 90 acres of which are accessible to my bees. Oh! that I had a few millions for a few days, only that it seems as if the God of winds had turned all his furies loose upon us to-day. I fear I should not compare favorably with the good bee-keepers. Success belongs to the ever vigilant apiarist.

Hoping you will have a pleasant and profitable meeting, I will close. MRS. Z. HOLLINGSWORTH.

Wintering of bees, etc.

Mrs. C. M. Kingsley—Like many bee-keepers of the present time, I will say my hive is the best one in use for outdoor wintering. It is 24 inches long, holds 12 frames; the frames are 12 inches square. In the fall I take out 2 frames at each end, put in the end boards, then fill the space with straw, put on the quilt then fill the cap with straw. I examine them during the winter, and, if the straw is gathering moisture, I empty it out and put in a fresh supply. About the 1st of April I throw the straw out of the cap, but leave it in the ends until the weather is quite warm. I like outdoor wintering best. If you keep the frost out of the caps by changing the straw when necessary, the bees are very much less liable to dwindle in the spring. My feeder is a piece of drone comb placed under the quilt near the edge of the hive, directly on the frames, and pour warm honey on it every evening.

A report of members on method of wintering and result was called for, and was given as follows: 15 wintered in cellar or house, 10 outdoors in chaff, straw, etc. The balance gave no report. 1,420 colonies were put into house or cellar, with a loss of 175; 484 were wintered on their summer stands with a loss of 51.

Ffteen new members were added to the list, 7 of them being ladies.

There was quite a good display of articles on exhibition, and 36 prizes were given away to members present. [The full list of these is omitted for want of space.—ED.]

A vote of thanks was given to Mr. Clute for his very able and interesting lecture. Also to the County of Warren for the free use of the court house, to the citizens of Monmouth for their generous, hospitable treatment of visiting bee-keepers, and to Mrs. L. Hollingsworth and T. G. McGaw, of the local Committee of Arrangements, for their services and efforts to make visitors comfortable, and to the President and Secretary for their services.

Mrs. L. H. Scudder and Messrs. D. D. Palmer and John Hoover, of New Boston, Ill., were appointed a local Committee of Arrangements for the next meeting.

Adjourned t meet at New Boston, Ill., at the call of the Executive Committee.

L. H. SCUDDER, *Pres't.*

WILL. M. KELLOGG, *Sec.*

Cortland County (N. Y.) Convention.

A regular meeting was held at Cortland, N. Y., on Tuesday, April 8, 1880. President Charles A. Pierce called the Convention to order at 1:30 p. m. The proceedings of last meeting were read, and the Treasurer being absent, a brief statement of the previous condition of the Association was given by the Secretary.

The first question proposed for discussion was "Spring Feeding."

R. H. Mellen considered it a good plan to feed if bees needed it; otherwise, objectionable; would not feed outside unless the weather was such that it could be done without injury. In cold weather would feed in the hive; in warm, at the entrance.

I. L. Schofield had fed grape sugar in a trough out-doors, but could not have fed honey in the same manner. Fed grape sugar at about 9 a. m., and large quantities would be eaten before night. In 14 years' experience had never found any other material that could be fed to bees outside of the hive in safety, unless among a limited number of colonies.

A. G. Chapman thought the question started wrong. It would be better to determine just what circumstances rendered feeding necessary or advisable. Had fed sugar and water among his bees outside the hive and with success. Rather thought it prevented robbing.

J. G. Bingham had learned from experienced bee-keepers that feeding strong colonies made them lazy when it came time to gather honey. His method was to feed in liquid form at entrance at night.

Mr. Schofield thought but little would be taken by the bees before morning.

Mr. Schofield presented some comb foundation which was made by a newly invented machine he had purchased. He considered it the best foundation so far, the bees not tearing away the side walls. Some time was taken by the members in examining the foundation and also a double-draft Quinby smoker.

Pres't Pierce inquired what was the best method of arranging boxes and sections for surplus honey.

J. H. Kennedy preferred to have boxes

both on side and top, allowing them to build the comb on side and filling them with honey at top.

Mr. Mellen thought it made some difference in the colony; some would work better on side and some on top. He further said bees would work in boxes sooner if in confined space; for this reason the division board was often useful; thought an extractor necessary if bee-keepers had only 5 colonies.

M. C. Bean inquired what was best depth for frames.

Mr. Kennedy considered 12 inches none too shallow—used that depth.

Mr. Mellen said deeper was better, if anything.

Pres't Pierce had begun with Langstroth and increased it to a foot; thought shallow frame would do as well in warmer climate.

Mr. Mellen said, in answer to a question, that wintering in houses was being abandoned. It was better to use chaff hives.

Mr. Chapman asked Pres't Pierce the condition of his bees, etc. Pres't Pierce stated he used hive with space of about 3,000 cubic inches—18x14x12; liked large hive and could easily make it smaller. Those wintered in chaff were in good condition. Last year he used wired foundation; put in 4 frames for the young swarms; the other 5 frames he supplied when needed. It was not a good plan to put in the 9 frames at one time; bees were apt to make holes in foundation. In less than 24 hours by this method eggs were laid in the cells. Would not use the wired foundation again; thought it could be made to answer without the wires.

Mr. Bean had used the Novelty hive, 18x14x10 inches, and found they had done well in it.

Pres't Pierce wished some information as to which was more profitably produced, box honey or extracted.

W. L. Coggshall had extracted several years, and put in boxes but one. As far as he had tested the two methods, he preferred extracting. Last year 25 colonies produced an average of 36 lbs. of box honey; 50 produced an average of 82 lbs. of extracted. Used firkins, barrels and cans to put extracted honey in. By extracting honey he nearly did away with swarming; used the 2-story Kidder hive. Used chaff to winter in; took dry-goods boxes and placed around hive, with 1 inch and upward space for chaff. By this means could winter in Langstroth as well as in Kidder hives.

Mr. Kennedy used regular chaff hive; was as good in summer as in winter—cooler in summer and warmer in winter.

E. B. Glazier wished to know whether it was best to Italianize, and the general opinion with regard to it.

Pres't Pierce said there was much difference in the breed. His experience had been that the dark, leather-colored Italians were better than the light colored ones.

In order to make each better acquainted with what others were doing in bee-keeping, the members present stated the number of colonies they had at beginning of winter, the number now, and the manner of wintering.

On motion of Mr. Kennedy, it was resolved that we extend a vote of thanks to D. F. Shattuck, whose labors had started the Association.

The next meeting will occur on Tuesday, July 27, at 10 a. m.; the subject for discussion will be "The Best Method of Obtaining Surplus Honey." J. H. Kennedy to open, A. G. Chapman alternate. Pres't Pierce also requested the members to make experiments in mating queens in confinement, and report success at next meeting.

C. M. Bean, *Sec.*

Rock River Valley, Ill.

The Rock River Valley Association met at Davis Junction, Ill., on Tuesday, May 18, 1880, Pres't A. Rice in the chair.

The report of the Secretary was read and approved.

In response to the question, "How were our bees wintered, and how much loss was sustained?" the following reports were made:

	Fall.	Loss.	
H. H. Everton	28	2	Packed in chaff.
G. G. Fraiser	28	8	Cellar.
J. C. Evans	13	4	"
J. A. Atwood	7	4	Out-door.
O. J. Cummings	16	7	Bee house.
H. W. Lee	216	1	Cellar.
Mr. Whitlesy	50	3	"
G. Lyman	14	3	"
Jas. Mason	25	2	"
J. Woodman	260	50	"
Mr. Lewis	13	6	"
Geo. & D. A. Fuller	65	10	"
A. Rice	50	25	"

H. H. Everton had weighed 8 hives on Nov. 1, and again about April 1, in order to ascertain how much honey had been consumed in winter. The figures were as follows, the first figures being the weight in the fall, and the latter the weight in the spring, the average consumption being 15⅜ lbs. of honey: 72, 55—57, 44—66, 53—66, 51—60, 41—60, 41—52, 41—60, 47.

By request Mr. T. G. Newman, who had been invited to be present, gave an interesting description of his travels in Europe last summer, and of the state of bee culture in the different countries he visited.

The Convention then adjourned for dinner. Upon reassembling, Mr. Newman gave an interesting address on the desirable points in bees; showing the points of excellence to be found in the Italians, and the desirableness of improvement in the race, by careful and constant selection. Though this address occupied over an hour, the speaker was listened to with profound attention, and was interrupted only by the applause of the audience. As Mr. Newman spoke extemporaneously, and the Secretary is unable to write short hand, he could not report the address, and desires Mr. Newman to insert it in this report if possible.

[We would do so, but are so much crowded with convention matter this month we must defer it to some future time.—Ed.]

After an intermission of 10 minutes, the Convention considered the subject of time and place of holding the next meeting. A committee was appointed to recommend the best time and place.

Mr. Newman was then called upon to address the Convention on the benefits of or-

ganization. He explained the benefits to be derived from organization at considerable length: the most important being those derived from getting all the smaller producers to understand the best manner of marketing their honey, and to be able to impress upon them the necessity of comprehending the sitnation so as not to break down the prices when taking their honey to market. Many a market had been ruined by the inexperience and thoughtlessness of the small producers, who did not read bee literature. They went into a locality or town and sold their crop of honey at any price offered, because they did not know its real or marketable value. Had they been readers of the bee papers or attended some good convention, they would have known othewise, and thus save thousands of dollars to the honey producers of the country. Many instances were cited where honey had been sold by such for about half its value.

Mr. H. W. Lee, President of the Northwestern Association, requested this Association to send a delegate to their next meeting, to confer upon establishing uniform prices for this year's crop of honey, and that until then we hold our honey at Chicago market quotations.

The Convention passed a vote of thanks to Mr. T. G. Newman for his addresses and efforts to interest and benefit them; to Mr. Lee, of Pecatonica, and to the landlord of the Junction Hotel, for kind attentions.

The meeting was well attended, and very interesting. We obtained 12 new members.

It was decided that the next meeting be a picnic, and that it be held in Davis' Grove, Davis Junction, Ill., on August 31, 1880.

D. A. FULLER, *Sec.*

Lancaster County, Pa., Convention.

Met at Lancaster May 10, Mr. I. G. Martin in the chair. The following reports on wintering were then given:

Mr. I. G. Martin's 32 colonies wintered without loss on summer stands. They are nearly ready to swarm.

Mr. E. Hershey wintered 31 colonies and lost 2, starved; the rest in good condition.

Mr. J. Eitemiller lost 7 out of 26 colonies; the rest being almost ready to swarm.

Mr. J. H. Mellinger lost 3 (queenless) out of 16 colonies wintered on summer stands. He used no packing.

All agreed that the prospects were good for a large crop of honey.

A discusion followed on the best plan of introducing queens, Messrs. Mellinger, Hershey, Martin and Eitemiller taking part in it.

In reference to the best plan of getting bees to work in section boves, Mr. Hershey gave them comb foundation.

Mr. Martin said that when he had colonies which refused to work up the upper stories of his boxes, he took a section already filled with comb, and placed in it the bees who refused to work, and he always found they would then work toward the upper story.

In reference to buying untested queens, all agreed that it was desirable, providing they purchased from reliable breeders, who had no hybrids in their yards or vicinity.

Adjourned till 2d Monday in August.

Business Matters.

OUR TERMS OF SUBSCRIPTION,

PAYABLE STRICTLY IN ADVANCE.

Single subscription, one year		**$1.50**
Two subscriptions,	" "	**2.50**
Three subscriptions,	" "	**3.50**
Four subscriptions,	" "	**4.50**
Five or more,	" " each,	**1.00**

Advertisements will be inserted at the rate of **20 cents** per line of Agate space, for each insertion. A line will contain about **eight words**; fourteen lines will occupy an inch of space. Advertisements must be received by the 20th, to insure insertion.

Special Notices 50 cents per line.

☞ We intend only to advertise for reliable dealers, who expect to fulfill all their advertised promises. Cases of *real* imposition will be exposed.

Remit by express, money-order, registered letter or New York or Chicago drafts, payable to our order. *Do not send checks on local banks*, for such cost us 25 cents each for collecting.

THOMAS G. NEWMAN & SON,
972 & 974 West Madison St. CHICAGO, ILL.

To Correspondents.

Our Illustrated Catalogue and Price List will be sent free, on application.

When changing a post-office address, mention the *old* address as well as the new one.

Constitutions and By-Laws, for local Associations, $2.00 per 100. The name of the Association printed in the blanks for 50 cents extra.

We do not send goods by C. O. D., unless sufficient money is sent with the order to pay express charges both ways, in case not taken from express office.

Strangers wishing to visit our office and Museum of Implements for the Apiary, should take the Madison street-cars (going west). They pass our door.

In consequence of the dearth of small currency in the country, we will receive either **1, 2 or 3 cent stamps**, for anything desired from this office. We cannot use Canadian or other foreign stamps.

We will send a tested Italian Queen to any one sending us **FIVE** subscribers to the AMERICAN BEE JOURNAL with **$7.50**. The premium Queens will in every case be tested, but not sent till after July 1st.

Club names for the BEE JOURNAL may be sent to as many post offices as there are names in the club. Additions can be made to clubs at any time at the same rate. Specimen copies, Posters, and Illustrated Price List sent free upon application, for canvassing.

Seeds or samples of merchandise can be mailed for one cent per ounce. Printed matter one cent for every two ounces. These must be tied up; if pasted, they are subject to letter postage. *Don't send small packages by express, that can just as well be sent by mail.*

Our answer to all who ask credit is this: We sell on **small** margins, and cannot afford to take the risks of doing a credit business. If we did such a business, we should be obliged to add at least 10 to 20 per cent. more to our prices, to make up for those who would never pay, and to pay the expenses of keeping book-accounts with our customers—this we know our **Cash** customers would not think to their advantage.—This rule we must make general in order not to do injustice to any one. The cash system gives all the advantage to cash customers, while the credit system works to their injury. In justice to all we must therefore require **Cash with the order.**

☞ The price of tin has been reduced a little. See prices of extractors on page 258.

☞ The most interesting thing at fairs would be hive of Italian bees at work. A good observatory hive would attract more attention than anything else.

☞ The price of comb foundation is after this date reduced. From 1 to 25 lbs. is now 42c; 50 lbs, 41c; 100 lbs. 40c. We keep in stock all styes and makes of it, and our customers can have their choice of that made by Chas. Dadant & Son, J. H. Nellis, Mrs. Dunham, J. Oatman & Sons, or J. Van Deusen & Son. The "wired" and "extra thin" flat-bottomed still remain at 62c. per lb.

☞ By referring to the printed address on the wrapper of every copy of the BEE JOURNAL, each subscriber can ascertain when his subscription expires. We stop sending the BEE JOURNAL promptly when the time for which it is paid runs out—sending only during the time paid for. In making remittances, *always* send by postal order, registered letter, or by draft on Chicago or New York. Drafts on other cities, and local checks, are not taken by the banks in this city except at a discount, to pay expense of collecting them.

☞ We are prepared to supply all new subscribers with the numbers from January when it is so desired.

☞ Our readers will do well to notice the advertisement of Hermon W. Ladd, XX Cot, in the JOURNAL this number. Here is a good bed for a little money, and it is appreciated, as the enormous sales of the past year fully proves.—*Adv.*

Local Convention Directory.

1880.	*Time and Place of Meeting.*
July 27	—Cortland Co., N. Y., at Cortland, N. Y. C. M. Bean, Sec.
Aug. 9	—Lancaster Co., Pa., at Lancaster, Pa.
31	—Rock River Valley, at Davis Junction, Ill. D. A. Fuller, Sec., Cherry Valley, Ill.
Sept. —	—W. Ill. and E. Iowa, at New Boston, Ill. Will. M. Kellogg, Sec., New Boston, Ill.
Oct. —	—National, at Cincinnati, Ohio.
7	—Central Michigan, at Lansing, Mich. Geo. L. Perry, Sec., Lansing, Mich.
5, 6.	—Northern Michigan, at Carson City, Mich.
14	—Southern Kentucky, at Louisville, Ky.
Dec. 8.	—Michigan State, at Lansing, Mich.
1881.	
Feb. 2	—Northeastern, at Rome, N. Y.
5, 6	—Ashtabula Co., O., at Andover, O. W. D. Howells, Sec., Jefferson, O.
April 5	—Central Kentucky, at Winchester, Ky. Wm. Williamson, Sec., Lexington, Ky.

☞ In order to have this Table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

Honey & Beeswax.

[We will insert free of charge, under this heading, the names and addresses of persons having honey and wax to sell, giving address, description and prices; all to occupy not more than three lines.—ED.]

Honey and Beeswax Market.

BUYERS' QUOTATIONS.

CHICAGO.

HONEY.—Light honey, in single-comb sections, 17@19c.; when with more than one comb in a box, 2c. per lb. less. Extracted, 8@9c.

BEESWAX.—Prime choice yellow, 20@22c; darker grades, 14@15c.

NEW YORK.

HONEY.—Best white, in single-comb sections, 15@18c. Larger boxes, 2c. per lb. less. Extracted, 9@10c.

BEESWAX.—Prime quality, 23@25c.

CINCINNATI.

HONEY.—White, in single-comb sections, none in market. Extracted, 9@10c. C. F. MUTH.

SAN FRANCISCO.

HONEY—Comb, 17@18c.; Extracted, 6@8c. ℔ lb.

BEESWAX—22@23c.

Bingham's Smoker Corner.

Brecksville, O., May 10, 1880.

The smokers were promptly received, and have been thoroughly tested. They are all you claim, and leave little or nothing to be desired in this line. Neighbor Oakes is enthusiastic over his, and says it is worth $100! It is correct in principle, and always reliable. We do not want any "cold blast" in ours, and fancy when bees mean "business," our "cold blast" friends will find it *warm*.

CHAS. S. BURT.

Simplicity, Chaff and Story-and-Half Hives,
SECTIONS, FRAMES,
DUNHAM FOUNDATION, ETC.,
CHEAP.
Workmanship superior. Manufactured by
MERRIAM & FALCONER, Jamestown, N.Y.

Decided!

A patent on this "Boss" One-Piece Section, heretofore called the LEWIS SECTION, THE FINEST SECTION IN THE WORLD, has been allowed to James Forncrook. Therefore, James Forncrook & Co. are the sole manufacturers of the "Boss" One-Piece Section in the United States.

We clip the following from Lewis & Parks' advertisement in May number of A. B. J., to show how they have tried to mislead the public in this matter:

'NOTICE.—There is no patent on the above Section, and the Examiner of Interferences of the Patent Office has adjudged the same unpatentable; so, any one has an undisputed right to manufacture, sell or use the same. Do not be misled by parties claiming a patent on the same."

We leave this matter to the public to judge who has tried to mislead. This, however will make no difference with the price of these Sections, as we shall sell them at the old price: 4¼x4¼ at $6.00. We will make the One-Piece Section any size desired. Liberal discounts on orders of 5,000 and 10,000 lots. Send for new price list, issued May 1st. Full Colony of Italian Bees, $6.00.

JAMES FORNCROOK & CO.
Watertown, Wis., June 1, 1880. 6

H. A. BURCH & CO.

Don't advertise much, but they carry a full line of

BEE-KEEPERS' SUPPLIES,

which, for quality and price, make their customers happy. Competent judges say that their

COMB FOUNDATION

is away ahead of all competitors. If you ever feed bees, try a

HEDDON FEEDER,

the latest, and by far the best, invention of its class; we are the sole manufacturers for 1880. For

DOLLAR QUEENS,

from best strains of Italian blood, we shall lead the trade, and you should see that your orders are sent in early. The choicest of

TESTED AND IMPORTED

queens always on hand; if you want splendid **honey gathering** stock, try our queens. A good supply

FULL COLONIES,

at prices that will please you, if you want the **Best Bees.** Finally, if you want the neatest Apiarian Catalogue printed in any land or language, send your name on a postal card to

H. A. BURCH & CO.,
SOUTH HAVEN, MICH.

PURE BEESWAX.

Bought at best market rates, and paid for promptly.
J. LEE SMITH & CO.,
1-6¶ 86 Beekman St., New York.

☞**CYPRIAN AND ITALIAN QUEENS AND NUCLEI.**—A Descriptive Price List will be sent Free. **JULIUS HOFFMAN,**
1-6¶ Fort Plain, Mont. Co., N. Y.

CHEAP HIVES,

AND

CHEAP SECTIONS.

The **BEST** BEE HIVES, HONEY BOXES, SECTIONS, SECTION CASES, FRAMES, Etc., for **the Least Money.** Manufacturers of the **LEWIS SECTIONS,** all in one piece—the finest Sections in the world—and we make them perfect.

Notice.—There is no patent on the above section, and the Examiner of Interferences of the Patent Office has adjudged the same unpatentable; so, any one has an undisputed right to manufacture, sell or use the same. Do not be mislead by parties claiming a patent on the same.

☞Send for Price-List.

LEWIS & PARKS, Watertown, Wis.

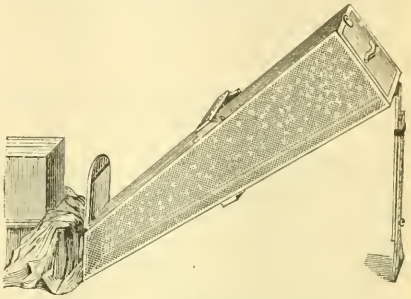
DOLLAR QUEENS reduced to 90c.; 6 for $5; 12 for $9. Tested, $1.90. Bred from improved stock, in full colonies. Sent by mail. 2 frame nucleus and dollar queen, $2.
6-1tp **H. BARBER, Adrian, Mich.**

ITALIAN QUEENS—All bred from Imported Mothers of my own importation. Dollar and Tested Queens from 1st April to 1st November. Full Colonies and Nuclei: Bee-Keepers' Supplies of all kinds; Comb Foundation, etc.
6-tf PAUL L. VIALLON, Bayou Goula, La.

J. W. BAILEY,

Inventor and Sole Manufacturer of the

BAILEY SWARM CATCHER.



Patent applied for.

In presenting the same, we are happy in knowing by our own experince, and the statements of others, that we are offering an implement that no one who keeps bees can afford to do without. Because without it your bees will often swarm into tall trees where it is very difficult to get them. In its use there will be no more chasing them across the fields, no more defacing choice trees and shrubs, no more smoking them from difficult places, no more swarms going together, and no more clipping the wings of the queens to compel them to stay in the hive, for the Bailey Swarm Catcher can be placed at any hive, and never fails to catch bees when swarming.

Should four swarms issue at the same time, we feel safe in saying that one person can adjust four catchers in a single minute, and thus keep each swarm separate.

A child ten years old can catch your bees, and they can be hived at pleasure.

As soon as you see the bees beginning to swarm, then it is brought into use, and the bees that have escaped will alight upon the outside, and try to get in.

The Swarm Catcher is covered with wire cloth, and can be set at any angle, and by its use, and a queen cage, a swarm can be compelled to stay in any hive.

One Swarm Catcher, boxed and delivered at the cars, $6.00. Two or more, $5.00 each.

Full directions sent with each Catcher.

☞ State and County Rights for sale.

Write your name, Post Office, County and State plain, and send by Postal Money Order, Draft or Registered Letter.

J. W. BAILEY,
Box 408, Ripon, Wis.

☞ For sale at the American Bee Journal Office.

Land in Florida for Sale.

Timber Land in Northern Florida—640 acres—about 50 miles south of the Georgia line, 25 miles west of Tallahassee, and near the Apalachicola river. Title clear and unincumbered. Will sell cheap for cash, or trade for a farm, apiary or other property. Address, with particulars, FLORIDA LAND, care AMERICAN BEE JOURNAL, Chicago, Ill.

KENDALL'S SPAVIN CURE

Is sure to cure Spavins, Splints, Curb, &c. It removes all unnatural enlargements. DOES NOT BLISTER. Has no equal for any lameness on beast or man. It has cured hip-joint lameness in a person who had suffered 15 years. Also cured Rheumatism, corns, frost-bites or any bruises, cut or lameness. It has no equal for any blemish on horses. Send for illustrated circular giving POSITIVE PROOF. Price $1. ALL DRUGGISTS have it or can get it for you. Dr. B. J. Kendall & Co., Proprietors, Enosburgh Falls, Vermont.

FULLER & FULLER, 22 Market street, and VAN SCHAACK, STEVENSON & CO., 92 Lake street, Agents, Chicago, Ill. 8y1

CHAS. F. MUTH,

CINCINNATI, O.,

Manufacturer of and Dealer in

MUTH'S ALL-METAL HONEY EXTRACTOR

AND UNCAPPING KNIFE,

LANGSTROTH BEE HIVES,

Glass Honey Jars and Tin Buckets, Bee Veils, Gloves, and a general assortment of Bee-Keepers' Supplies,

ALSIKE CLOVER,

and a variety of Field and Garden Seeds, etc. For further particulars address,

CHAS. F. MUTH,

4-12 976 and 978 Central Ave., Cincinnati, Ohio.

Langstroth Bee Hives,

HONEY EXTRACTORS,

and Section Boxes, at reasonable rates for 1880. Extractors from $10.00 to $12.00. Prize Boxes, $4.00 to $5.00 per 1,000. Address. **R. R. MURPHY,**

1-6 Garden Plain, Whiteside Co., Ill.

THE LATEST IMPROVED

COMPOUND-GEAR

Comb Foundation Machine.

No lost motion in the gearing—may be turned either way. The machine is warranted to do the work like the sample. The rollers are made of the best type metal. The prices are as follows :

No. 1—Rollers 12 inches long, 4 in. diameter....$75 00
" 2 " 12 " " 2 " 40 00
" 3 " 9 " " 2 " 25 00
" 4 " 6 " " 2 " 15 00

Sample of Foundation made on this machine free. For sale at the office of the American Bee Journal.

3tf **C. OLM,** Fond du Lac, Wis.

1880. 1880.

REV. A. SALISBURY,

CAMARGO, ILL.,

Pure Italian Queens, Bees, Foundation Combs, Honey Extractors, Dunham Foundation Machines, &c. **Send for circular.** 3-8

Hale's Price-List.

Send for my price-list of Bees, Queens, Nuclei, &c., for 1880. Early Queens a specialty. Address,

2-11 **E. W. HALE,** Wirt C. H., W. Va.

Price List for 1880, of Italian Bees, Queens, 4 frame Nuclei, and Apiarian Supplies. **Sent Free.** Address,

3tf **H. H. BROWN,** Light Street, Col. Co., Pa.

BEES FOR 1880.

We will furnish Full Colonies, Nuclei and Queens **CHEAP.** Satisfaction guaranteed, For circulars address, **S. D. McLEAN & SON,**

2-7 Culleoka, Maury County, Tenn.

CLEAR AHEAD!

WE LEAD IN SMOKERS!

Our new invention of a

DOUBLE BLAST

Smoker is pronounced the finest improvement ever made on smokers. No more sparks or ashes in the hive. Doolittle says : "The arrangement to change the draft so as to make it a cold-blast, after the fire is kindled, places it ahead of any smoker in the market by a long way." So say all who see and test it.

Don't fail to see an illustration and description of it. Prices—Large, 2¼ inch tube, $1.50 ; medium, 2 inch tube, $1.25 ; small, 1¾ inch tube, without double-blast attachment, 75 cents. Dust box and extra nozzle with large size, 25 cents extra.

By mail, **25 cents extra** each.

Quinby's New Bee-Keeping,

By L. C. ROOT.

This is the most practical work published. It contains 100 illustrations, including an excellent portrait of M. Quinby. Price, by mail, **$1.50.**

We sell everything used by practical bee-keepers. Send for our illustrated circular.

L. C. ROOT & BRO.,

2-12 Mohawk, Herk. Co., N. Y.

SUBSCRIBE FOR THE

Bee-Keepers' Instructor,

A monthly devoted exclusively to Bee-Culture ; only **50 Cents a year.** Sample copy free.

Address, **SAMUEL D. RIEGEL,**

2-7 Adelphi, Ross County, Ohio.

BEFORE PURCHASING

supplies for your apiary, send a postal card with your name, and if you will do us the kindness, the names of your bee-keeping neighbors, for our illustrated catalogue of apiarian supplies of every description, sample section box and comb foundation. We wish to present them to every reader of this Journal, and hence offer them **FREE.** Please send your name at once. Special attention given to rearing Italian Queens and Bees.

☞ The highest price paid for Beeswax.

1-8 J. C. & H. P. SAYLES, Hartford, Wis.

Friends, if you are in any way interested in

BEES OR HONEY

We will with pleasure send you a sample copy of our

Monthly Gleanings in Bee-Culture,

with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Artificial Comb, Section Honey Boxes,** all books and journals, and everything pertaining to Bee Culture. *Nothing Patented.* Simply send your address on a postal card, *written plainly,* to A. I. ROOT, Medina, O.

PRIZE-BRED ESSEX PIGS.

Essex are the best Farmers' Pig ; have been known to dress 90 per cent. of live weight ; small bone, light offal, quick to mature. Jos. Harris, author of "Harris on the Pig," etc., says of my Boar "Porter," that he is the finest Essex Pig he ever saw. A few **Pedigree Pigs** for disposal at moderate prices, suitable for breeding or exhibition. Personal inspection of my stock is solicited. All correspondence will have cheerful and prompt attention.

C. W. CANFIELD, Athens, Pa.

N. B.—A limited number of Eggs for hatching from prize-winning Brown Leghorns and Black Red Bantams, at $2.00 per 13. Warranted to hatch. 4-yl

---

J. M. BROOKS & BRO'S.

Golden Italians.

Fine Tested Queens a specialty. **Send for Circular, and see what others say of them.**

Columbus, Ind., Box 64. 3-9

APIARIAN SUPPLIES.

As Cheap as the Cheapest,

AND

As Good as the Best!

4¼x4¼ section boxes, per 100, 50c...per 1000...$5 00
Prize boxes,..... " 70c... " ... 6 00

Good Colonies of Italian Bees, in 8-frame Langstroth Hives, in May, $8.00 ; 2 for $15.00 ; 10 and over, $6.00 each ; after May, $1.00 less each colony. Take your choice at the price.

Tested Queens, from Imported Mothers, in May, $3.00 ; after May, $2.00. Untested Queens, in May, $1.50 ; after May, $1.00.

I have had 23 years' experience with bees in Langstroth hives, and 17 with Italian Bees and have been extensively engaged in the bee business for 11 years. I have now nearly 700 colonies. I have manufactured my own supplies for a number of years with steam power ; though I have been engaged in other pursuits. I now intend to make the bee business and its connections a specialty. With my experience, and no other business to look after, I think I will be able to satisfy my customers in every particular.

Comb Foundation manufactured by the pound and on shares.

My facilities for shipping are such that orders can often be filled the same day they are received. To those who may favor me with their patronage, I will try and make it a mutual advantage to us both.

Cash must accompany the order. All my goods warranted.

Cash paid for beeswax. Honey bought and sold.

☞ Price List FREE.

I. S. CROWFOOT,
1-12 Hartford, Wis.

HEADQUARTERS
FOR
EARLY ITALIAN QUEENS.

Imported and Home-bred. Full Colonies and Nucleus Colonies. For quality and purity of stock, it cannot be excelled by any in America.

If you want Queens or Bees, Hives, Extractors, Comb Foundation, Smokers, or Bee Fixtures of any kind, send for my new Circular. Address,

DR. J. P. H. BROWN,
1-6 Augusta, Ga.

Our FLAT BOTTOM
COMB FOUNDATION,

with high sharp side-walls, 10 to 14 feet to the pound, HAS BEEN USED the past season in FULL SIZE SHEETS in Surplus Boxes, adding LARGELY to the YIELD and to MARKET VALUE of the honey.

The wired foundation does not sag, and gives general satisfaction.

Circular and samples free.

This foundation is patented, and no infringements allowed.

J. VAN DEUSEN & SONS,
Sole Manufacturers,
1-6 **Sprout Brook, Mont. Co., N. Y.**

QUEENS! QUEENS!!
GOLDEN ITALIAN QUEENS.

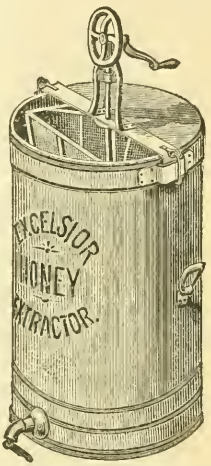
Beautiful, and **good** as the **best, all** bred from **select** Imported and home-bred mothers. One tested Queen, $2.00 ; six for $11.00. One Unwarranted Queen, 80c. ; four for $3.00. Sent by mail ; safe arrival guaranteed. Address,

4-7 **T. N. HOLLETT,** Pennsville, Ohio.

COFFINBERRY'S
Excelsior Honey Extractor

Sizes and Prices:

No. 1.—For 2 Langstroth frames, 10x18 inches... $9 00
" 2.—For 2 American Frames, 13x13 inches.... 9 00
" 3.—For 2 frames, 13x20 inches or less 12 00
" 4.—For 3 " " " " 12 00
" 5.—For 4 " " " " 14 00



Having made many improvements in the EXCELSIOR EXTRACTOR for 1880, it is now offered to the Bee-Keepers of America as the MOST PERFECT MACHINE in the MARKET. The universal favor with which the EXCELSIOR EXTRACTOR was received in 1878, has induced other manufacturers to adopt several of its improvements. My experience and experiments of last season, with the assistance and suggestions of skillful workmen, have enabled me to perfect an Extractor that **cannot be excelled, and can only be equaled by being closely imitated.**

Some of its advantages are as follows : It is made entirely of metal, It is light, but has attachments for fastening down to a platform. It can be instantly taken to pieces for cleaning, having no rusty screws to take out or nuts to remove.

The top or cross-band, to which is attached the gearing, is wrought iron, three inches broad, with the ends turned down in such manner as to thoroughly brace and strengthen the can and hold the basket firmly in an upright position.

The strong over-motion gearing, so necessary to ease in running and speedy operating, was designed and is manufactured expressly for the Excelsior. A child ten years of age can operate the machine as rapidly as it can be supplied with combs.

The Comb Basket having vertical sides, insures the extracting power alike for top and bottom of frames. The sides of the basket being movable and interchangeable, greatly facilitate the operation of dusting before and thoroughly cleaning after use.

It has a small comb-holder for extracting pieces of comb or partly-filled sections.

At the bottom of the can, and below the basket, is a cone or metal standard, in the top of which revolves the bottom pivot of the basket, thereby giving room for sixty or seventy pounds of honey without touching the basket or pivot below.

Nos. 3, 4 and 5, have neatly-fitting covers, movable sliding sides to the baskets, and movable strainers covering the canal to the faucet, whereby all honey can be drawn off without a particle of sediment.

The baskets of Nos. 4 and 5 have no center rod running from top to bottom, which will be found very convenient by those who uncap both sides of the comb before putting in the basket, as they can be turned without removal.

The wire baskets are very neat specimens of skillful workmanship, thoroughly braced at every point where experience has proven it to be most requisite, and nothing has been omitted that could add to its efficiency.

The No. 4, for **three** frames, has a triangular basket, movable sides, no center rod, runs smoothly regardless of number of frames, and is fast superseding the demand for four-sided baskets.

A LOWER PRICED MACHINE

being called for by those having but few colonies, and not making a specialty of bee-keeping, I have made a special size to take the Langstroth frame, and one for the American, to sell at **$10.00** each. These have no covers or strainer, and are smaller than the $14.00 and $16.00 sizes, but for the frames named are equal to the others for effective work, and are the **best cheap Extractors made.**

☞ A liberal discount to dealers.

Address, **C. C. COFFINBERRY,**
Or **American Bee Journal, Chicago, Ill.**

DADANT & SON

COLONIES,

With Imported Tested Italian Queen $13 00
" Home-bred " " " 9 00

Hybrids or blacks in movable-frame or box hives. Have wintered over

100 IMPORTED QUEENS,

and will continue to receive two shipments every month, from May to September.

Root and Dunham Foundation.

The purest and brightest yellow foundation made. Hives, Extractors, Uncapping Cans, Veils, Smokers, Pails, Jars, Knives, etc. Send your name on a postal card for circular and sample of foundation free.

CHAS. DADANT & SON,

3-8 , Hamilton, Hancock Co., Ill.

1880.— —1880.

Italian Queens, Nuclei, &c.

Single Queen, Tested..... $2.00
" " Untested (laying) 1.00

By the dozen, 10 per cent. off of above prices. Queens sent by mail and postage prepaid.

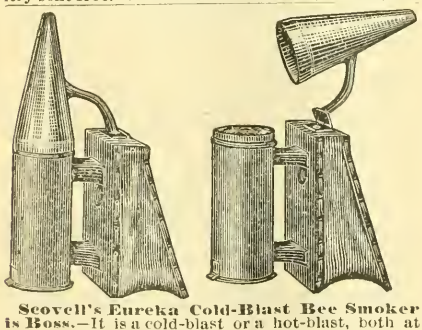
3 frame Nucleus, Untested Queen..... $3.00
2 frame Nucleus, Untested Queen..... 2.50
1 frame Nucleus, Untested Queen..... 2.00
8 frame Colony, Untested Queen..... 6.00

Sent by Express. Send money by P. O. Order or Registered Letter. Address,

W. P. HENDERSON,

3-8 Murfreesboro, Tenn.

EVERETT'S Honey Extractors and Everett Langstroth Hives a specialty. We challenge competition in price and quality. Our circular and price list of apiarian supplies, Italian Bees and high-class poultry sent free. **EVERETT BROS.**, Toledo, O.



Scovell's Eureka Cold-Blast Bee Smoker is Boss.—It is a cold-blast or a hot-blast, both at once or separately, at the will of the operator. It is the only cold-blast smoker on the market that has no tubes or other complicated machinery in the fire barrel to interfere with filling or cleaning. Large size bellows 5¼x6¼ inches; fire barrel, 2½ inches.

Price.....**$1.00**; By mail.....**$1.25.**

Send for illustrated descriptive catalogue and price list of hives, implements and supplies used in bee culture. Address, **SCOVELL & ANDERSON,** Columbus, Cherokee County, Kansas. 4-8

COMB FOUNDATION,

For sale at **40c.** per lb., by **WM. HAMILTON,** 103 W. Main Street, Louisville, Ky. 4-6p

---

THE SPIDER PLANT.

I can now supply bee-keepers with the **SEED** of this remarkable honey plant. Price, $3.00 per lb.; 25 cents per ounce. Address,

4-6 **J. A. MAGOUN, Jr.,** Sioux City, Iowa.

Tested & Imported Queens

DUNHAM FOUNDATION,

MODEST BEE HIVES,

SECTION BOXES, &c.,

TO BE HAD OF

J. OATMAN & SONS,

DUNDEE, KANE CO., ILL.

N. B.—We shall hereafter rear **NO DOLLAR QUEENS,** but will confine our Queen-rearing to producing **FINEST TESTED QUEENS,** bred for **BUSINESS.** Please take notice. Write for Price List.

J. OATMAN & SONS,

5-7 **Dundee, Kane Co., Ill.**

BOKHARA CLOVER SEED.

We have received a lot of Imported Bokhara Clover Seed, which we can sell at 50 cents per lb. If sent by mail, 70 cents per lb.

THOMAS G. NEWMAN & SON, Chicago, Ill.

Italian Queens or Colonies.

Eighteen years' experience in propagating Queen Bees from imported mothers from the best districts of Italy. Persons purchasing Queens or Colonies from me will get what they bargain for. Send for circular.

WM. W. CARY,

3-tf Colerain, Franklin Co., Mass.

CANADA.

Brother Bee-Keepers: I will have my **NEW COMB-REVERSING EXTRACTOR** (extracts both sides by reversing machine), ready for the market in March. Also, a full assortment of the best Apiary Supplies cheaper than ever.

☞ Descriptive Catalogue sent free to any address.

W. G. WALTON, Hamilton, Canada.

N. B.—For the convenience of American Bee-Keepers, I have completed arrangements with parties in Buffalo, N. Y., to manufacture my Extractor for the United States. 2-7

The Challenge Hive.

BEES AND SUPPLIES.

Send for Circular and Price List to O. H. TOWNSEND, manufacturer of THE CHALLENGE BEE HIVE, adapted to the use of the American, the Gallup and the Roop frames. Italian bees, nuclei, and queens from imported stock. Apiarian stock in general. Address,

O. H. TOWNSEND,

5 Hubbardston, Ionia Co., Mich.

Oldt's Hiving Apparatus.

R. B. Oldt wishes to say that he will not come before the public this season with his Hiving Apparatus, but that he is experimenting, and is determined to surmount all difficulties by next season. Let this be an answer for the present to many inquiring friends. New Berlin, Pa. 6

Tested & Imported Queens

DUNHAM FOUNDATION,

MODEST BEE HIVES,

SECTION BOXES, &c.,

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CHAS. F. MUTH,

CINCINNATI, O.,

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AND UNCAPPING KNIFE,

LANGSTROTH BEE HIVES,

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THE LATEST IMPROVED

COMPOUND-GEAR

Comb Foundation Machine.

No lost motion in the gearing—may be turned either way. The machine is warranted to do the work like the sample. The rollers are made of the best type metal. The prices are as follows:

No. 1—Rollers	12	inches	long,	4	in.	diameter....$75 00
" 2 "	12	"	"	2	"	.... 40 00
" 3 "	9	"	"	2	"	.... 25 00
" 4 "	6	"	"	2	"	.... 15 00

Sample of Foundation made on this machine free. For sale at the office of the American Bee Journal.

3tf **C. OLM,** Fond du Lac, Wis.

BEES FOR 1880.

We will furnish Full Colonies, Nuclei and Queens **CHEAP.** Satisfaction guaranteed. For circulars address,

2-7 **S. D. McLEAN & SON,** Culleoka, Maury County, Tenn.

H. A. BURCH & CO.

Don't advertise much, but they carry a full line of

BEE-KEEPERS' SUPPLIES,

which, for quality and price, make their customers happy. Competent judges say that their

COMB FOUNDATION

is away ahead of all competitors. If you ever feed bees, try a

HEDDON FEEDER,

the latest, and by far the best, invention of its class; we are the sole manufacturers for 1880. For

DOLLAR QUEENS,

from best strains of Italian blood, we shall lead the trade, and you should see that your orders are sent in early. The choicest of

TESTED AND IMPORTED

queens always on hand; if you want splendid **honey gathering** stock, try our queens. A good supply

FULL COLONIES,

at prices that will please you, if you want the **Best Bees.** Finally, if you want the neatest Apiarian Catalogue printed in any land or language, send your name on a postal card to

H. A. BURCH & CO.,

SOUTH HAVEN, MICH.

CHEAP HIVES,

AND

CHEAP SECTIONS.

The **BEST** BEE HIVES, HONEY BOXES, SECTIONS, SECTION CASES, FRAMES, Etc., for **the Least Money.** Manufacturers of the **LEWIS SECTIONS,** all in one piece—the finest Sections in the world—and we make them perfect.

Notice.—There is no patent on the above section, and the Examiner of Interferences of the Patent Office has adjudged the same unpatentable; so, any one has an undisputed right to manufacture, sell or use the same. Do not be mislead by parties claiming a patent on the same.

☞Send for Price-List.

LEWIS & PARKS, Watertown, Wis.

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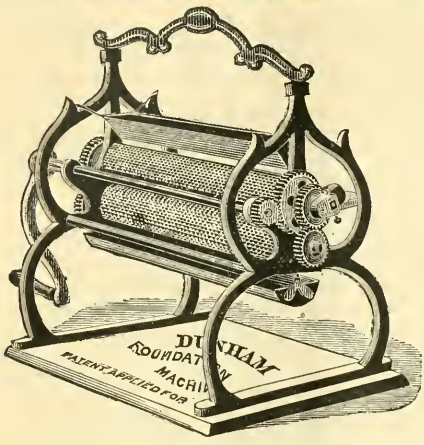
Beautiful, and **good** as the **best, all** bred from **select** Imported and home-bred mothers. One tested Queen, $2.00; six for $11.00. One Unwarranted Queen, 80c.; four for $3.00. Sent by mail; safe arrival guaranteed. Address,

4-7 **T. N. HOLLETT,** Pennsville, Ohio.



FRANCES DUNHAM,

Inventor and Sole Manufacturer of the

Dunham Foundation MACHINE.

12	inch rolls	**$57.00**
9	" "	**38.00**
6	" "	**27.00**
4	" "	**19.00**

Dealer in All Articles necessary in the Apiary.

DUNHAM COMB FOUNDATION,

In regular sized sheets 8x16½, 12x18, 7¾x16, 9x16½, 10x11.

1 to 25 lbs	40c.	100 to 200 lbs	37c.
25 to 50 lbs	39c.	200 to 500 lbs	36c.
50 to 100 lbs	38c.	Add 2c. ℔ lb. for odd sizes.	

Add **10c. per lb.** for Thin Foundation for surplus honey; will be 4 or 5 inches wide.

☞ Circular and Samples free. ☜

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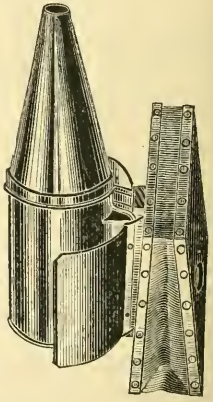

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Extra Standard Smoker	2 "	1 25
Plain Standard Smoker	2 "	1 00
Little Wonder Smoker, $3.00 per half-dozen; each	1¾ "	75
Bingham & Hetherington Knife		1 00
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If to be sent by mail, or singly by express, add 25 cents each to prepay postage or express charges.

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THE AMERICAN

BEE JOURNAL

Devoted Exclusively to Bee Culture.

Vol. XVI. CHICAGO, ILLINOIS, JULY, 1880. No. 7.

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Editor's Table.

☞Mr. C. F. Muth says that the postmaster at Cincinnati has refused to receive queens in the mails. He should be better posted on the rulings of the Department, and is referred to page 45 of the Official Postal Guide for February, 1880.

☞ We notice an interesting article on bee-keeping in New York City, in some of the daily papers. It refers in a very complimentary manner to Mr. A. J. King's apiary there, and reports an "interview" made by a reporter or correspondent with Mr. King.

"The Adulterations of Food; What We Eat and What We Should Eat," is the title of a new work just issued in this city. It contains 200 pages, and its perusal will perfectly astonish the reader, who, no matter how much he may have thought of the adulterations going on, would hardly be prepared for such wholesale fraud as is now afflicting the country. Almost everything consumed in the family is so adulterated that it is hard to find a genuine and *pure* article. A stringent law against adulteration is necessary, and we believe this book will do much to work up a strong feeling in favor of its enactment at the next meeting of Congress.

The price of the work is 60 cents in paper covers, and $1 bound in cloth. It is beautifully printed, and should be in every family in the country. We shall add it to our list of books, and can supply it at the publisher's prices, postpaid.

Diploma from Italy.

A few days since we received a package from Italy, consisting of an exceedingly ornamental Diploma of Honorary Membership, and a Letter from Count Barbo, President of the Italian Bee-Keepers' Association. Not being familiar with the Italian language, Mr. Chas. Dadant has kindly translated them for us. The following is the letter of the President, Count Barbo:

Milan, Italy, March 27, 1880.

MOST ILLUSTRIOUS SIGNIOR:

I have the honor of informing you that, at the general meeting which took place on the 13th of January, 1880, your Signiory was elected an Honorary Member of the Central Association for the Encouragement of Bee Culture in Italy.

I hope that such an honor will prove to your Signiory to be a testimony of gratitude from the Italian bee-keepers for the eminent services rendered to their noble industry by your Signiory.

We hope you will deign to keep us informed as to the improvements in bee culture in your country.

I subscribe myself, with all respect,

Yours, very obediently,

GAETANO BARBO, *President.*

The Hororary Membership Diploma, when translated, reads thus:

Central Association for the Encouragement of Bee-Culture in Italy:

DIPLOMA OF HONORARY MEMBER.

Hon. Thomas G. Newman, of Chicago, Illinois, (United States of America) was elected on the 1st of March, according to article IX. of the statutes of the Society. Milan, from the office of the Society, March 1, 1880.

G. BARBO, *Pres't.*

A. VISCONTI DE SALICETO, *Sec.*

To say that we appreciate this great honor, but feebly expresses our feelings. We are exceedingly gratified to know that our feeble efforts in the cause of progressive apiculture have been pronounced worthy of this distinguished mark of approval. We can only assure the "Central Society for the Encouragement of Bee-Keeping in Italy," that we shall diligently continue our work in the cause, and strive to merit our membership in their honorable Society.

Bright Yellow Foundation.—A correspondent asks: "Is the darker shades of beeswax as well for foundation when used in the brood chamber?"

The bees prefer it, and will work much sooner on the darkish yellow foundation than on the very bright, and probably this is the reason: The bright yellow wax is generally melted and strained more and loses some of its "aromatic" qualities which are more acceptable to the bees than brightness of color, for they can the more readily manipulate it. It is not nearly as brittle as the lighter shades. For comb honey, the light color is indispensable, and when rearing fancy stock the lightest colored comb will produce the brightest yellow bees.

Correction.—Mr. C. F. Muth desires to make the following correction in the report of the Lexington, Ky., Convention, published last month. He says:

On page 284, in answer to a question concerning a fertile worker, the Secretary made me say that the best way to get rid of it is to "pick it out." I have never seen one, and do not believe that any one else has. If something of that sort was said it was not by me. I said "the best way to get rid of a fertile worker is to introduce 2 or 3 combs with hatching brood from a strong colony, with all the adhering bees; when they will readily accept a queen or a queen cell, and nothing is seen of the fertile worker any more."

In regard to introducing queens, I said that they could be introduced successfully in various ways. In former years I introduced them with peppermint or nutmeg, flavoring alike the queen and colony, but the way I now practiced was to leave the new queen caged between 2 brood combs for 24 hours, and no longer. Then put a piece of honey from the same hive in place of the cork, and leave it to the bees to liberate the queen. No queen-cells being in progress yet, nor any excitement (which may be caused by being opened) about the hive, the queen is liberated and commences to lay eggs a few hours afterwards.

☞A farmer in Bangor, Me., noticing that wheat was being picked from the heads of standing grain, and finding flocks of yellow birds flying about, shot some of them. On opening their crops he found only 3 grains of wheat, and, by actual count, 350 weevils. It is better that farmers know whether they kill friends or foes.

The Cyprian and "Holy" Bees.

On May 27, Mr. D. A. Jones arrived in England with 150 pure Cyprian queens, as well as some from Palestine. He left England on the 5th of last month, and while we are writing this he is on the ocean with his choice freight.

The *British Bee Journal* of June, remarks as follows concerning Mr. Jones enterprise:

"Mr. Benton at Larnica is actively employed in raising Cyprian queens for shipment to us, *en route* to America; and, having 'flown' and repacked them, we shall send them forward minus such as may from time to time be ordered for England and the European continent....

"The enormous expenditure which he has incurred, to say nothing of the personal suffering he has borne, fully evidenced by his altered appearance since we last saw him, but from which, thanks to an 'iron' constitution, he is rapidly recovering, will probably render his enterprise profitless to him in a pecuniary sense for a long time to come, but to him will belong all the honor due to such unexampled skill and personal pluck. To such a man the idea of failure never once occurred; he determined to do what many others have tried to do, and pronounced a comparatively hopeless task, and he has fulfilled his self-imposed mission to the letter....

"We shall have the honor of breeding from the first 'Holy Bees' that have ever reached our shores. Mr. Benton, we are glad to say, is quite well, and as happy and busy as a bee among newly blown flowers, and we hope to hear of his continued success....

"On the afternoon of the 28th ult., these bees were allowed their first flight in England, and, whatever doubt had existed as to their true nature, through our never having seen the pure natives, was at once dispelled. Though imported without a vestige of comb (except in six of the cages), the bees on being liberated were in a few minutes thick upon the flowers, the hairy emigrants from Jaffa and Beyrout being particularly interesting from their darting movements. The extreme beauty of the Cyprians is undeniable, and they will doubtless prove a most valuable acquisition."

Just before closing the forms for this number of the BEE JOURNAL, we have received a letter from Mr. D. A. Jones, who has now safely arrived at his home in Beeton, Canada, with his choice and valuable stock of queens. The following extracts from Mr. Jones' letter will be read with interest:

"Beeton, Ontario, June 18, 1880.

"DEAR MR. NEWMAN: I have just returned to my home with my choice queens, and have them safely introduced, and as soon as they commence to lay I will fill orders for them. Many have inquired as to prices, and I may be pardoned for here stating that I cannot afford to dispose of the Cyprian queens for less than from $10 to $15, according to quality—some are much finer than others. I expect others soon to follow, and I shall sell them for just as low prices as will cover the cost, after deducting for those that die on the long and tedious journey. I shall promptly fill all orders sent through you. I shall also send a sample of bees, drones, etc., for your Museum. My bees are carrying in about $200 worth of honey daily, and prospects for a large honey crop are very good. I have just heard that some are now pretending to sell queens from Cyprus and Palestine of my importation. I wish to say that I have only authorized the editors of the various bee papers to take orders for queens of my importation, and should I conclude to authorize any others I will so announce it in the journals, so that there is no necessity of any one being imposed upon.

D. A. JONES.

As the editor of the BEE JOURNAL is now *entirely* out of the "bee supply" trade, we have turned the queen business with all the supply trade over to our son, Alfred H. Newman, and all orders entrusted to him for queens of Mr. Jones' importation will receive as prompt and careful attention as they would, had they been sent to us. We mention this only because of Mr. Jones' reference to us in the foregoing letter. We shall be pleased to receive the samples of bees and drones for our Museum, so kindly promised by Mr. Jones.

☞ Bees, trees, fruits and flowers are natural associates; and every apiarist should cultivate them.

☞ We learn that the libel suit of N. C. Mitchell against the Indiana *Farmer* is "continued," and in all probability will not be "called" again. Mr. Mitchell was not in the city at the time, and it is likely knew nothing of the matter. His agents evidently commenced the "suit" to help their work.

New Inventions in England.

Just as the JOURNAL is ready to be printed, Mr. D. A. Jones has sent us a sample of the Abbott foundation, made on a board 1-16 of an inch thick, for extracting; and, also, a sample of Mr. F. Cheshire's wires to prevent the comb from sagging. We have placed the wood foundation in a strong colony, and will report in our next. Mr. Jones, in his accompanying letter, says:

I wish to call the attention of American bee-keepers to two inventions which I deem of considerable importance. Mr. C. N. Abbott, editor of the *British Bee Journal*, has made comb foundation on wood a success. He made his own machine, and I saw his frames (Langstroth size) filled with his wood foundation, all drawn out in splendid shape; no warping, sagging nor breaking down, and you could not have nicer combs, with brood in all stages, from the egg to the hatching bees. He kindly gave me a few samples, and I send you one of Langstroth size. It is necessary to put them close until the bees get started, then push them the usual distance apart; if so put at first, they may build pieces between them.

The day I left London, Mr. Cheshire explained to me a very simple and easy method of putting comb foundation in frames, and prevent it from sagging. The bottom of the wire must be bent to fit the depth of the frame, the same as the top. Cut a board that will just fit into the inside of the frame, and just thick enough, so that the foundation will rest in the center, drop in the foundation the full size; hook the wire over the top and bottom bars, then press it with your hand to push the pins through the wax; put the frames, thus prepared about 3 inches apart, say 5 to a Langstroth hive; it can be done very quickly. Mr. Cheshire put in one in 5 seconds, and I tried my best to shake or jerk it out, but I could not; I could scarcely believe it, even after I saw it. One set of wires will last a lifetime. The way to make them is to cut several creases in a board with a saw ⅛ inch deep, for the long wires; cut cross creases for the pins; the creases hold them in the places while soldering, which is done as fast as you can touch them; bore holes through a board, the right distance apart, to let the pins go through; place the wire on the board by pushing the pins through, and cut them off close to the board. That is a guide to make them all of one length. In 12 hours after they are put in the bees will fasten the combs all around, and have the cells drawn out, so that no sagging or warping will occur. They can be removed and used again for others; the wires form a complete ladder for the bees. This beats wires in the foundation, and one can put it in, in half the time. I have received many valuable hints, and I will give them to the readers of the BEE JOURNAL as fast as I can find time to do so.

Seasonable Hints.

A writer in the *Rural New-Yorker* has given the following appropriate hints:

The first and great care of the apiarist should be to see that each colony is provided with a laying prolific queen. An old queen, or one that, for any reason, has become less vital and has deteriorated in her laying propensity, should never be tolerated. In the honey season, when the workers live but a few weeks before they wear out, it is of importance that the colonies should be reenforced with a constant and copious supply of young bees. Where such reenforcement is lacking there will be a corresponding deficiency in the store of surplus honey, as well as in swarms. It is well to keep a few queens on hand in nuclei, so that if any accident should happen to a laying queen, a new one can be substituted without delay. Should a queen be killed by accident and a new one not be introduced, the workers will go to work and rear a queen from a worker egg, or young larva; but this process takes 16 days, and 5 or 6 days more elapse before the young queen is fertilized and begins laying; hence 3 weeks, in all, are lost. A prolific queen is estimated to lay over 2,000 eggs a day when at her best. The total loss of bees to the colony would, therefore, be nearly 50,000 by a three week's absence of a queen. Those who take no warning from these figures do not deserve to succeed in apiculture.

Having prolific queens in the colonies, it next becomes important to see that there is room for them to lay. When honey is plentiful the bees will store rapidly; use the extractor freely, therefore, and let no more honey be stored in the brood nest than necessary. This extracted honey can be stored in barrels, if the quantity is large, and shipped to commission men; but it is much preferable to endeavor to develop a home market for the article, and there sell it at retail. To this end, put it up in as attractive a form as possible.

Keep, also, a watchful eye on the sections for storing surplus honey. The queen should never be allowed to lay eggs in these; but if there is sufficient room for her in the brood nest, there is but little danger that she will enter the upper story for the purpose of laying.

☞Mr. L. J. Diehl has sent us one of his block queen cages, which fully complies with the postal law. It is good and strong.

Married and Settled in Life.

On a bright morning in May, when that cheerful and fragrant month was but six days old, the junior member of our firm betook himself to the State of Iowa, and entered into a life partnership with the accomplished daughter of the Hon. Henry Rickel, of Cedar Rapids. On "their wedding flight" they hied away to Minnesota and the northern regions; thence, by the way of Wisconsin and the lakes, they returned, to enter in earnest upon the realities of life.

From the many complimentary notices by the press, we extract the following:

"The residence of the Hon. Henry Rickel was brilliantly illuminated, and a large and fashionable assemblage gathered to witness the marriage of one of our most accomplished young ladies, Miss Lilian M. Rickel to Mr. Alfred H. Newman, of Chicago. The bride is well and favorably known in Cedar Rapids for her many goodly and lovable traits of character. She has the friendship and esteem of all with whom she is acquainted. The groom is the son of our former worthy townsman, Mr. T. G. Newman, founder of the *Daily Republican*, and latterly proprietor and editor of the *Standard*. Al. has been the genial manager of the latter paper until the change in ownership, and is widely known to the citizens of Cedar Rapids as one of the very best of boys. The union is a most fitting one, and the star of good omen has shined upon their nuptials, ever to brighten the pathway of their lives."—*Cedar Rapids Standard.*

"The groom is a son of Mr. T. G. Newman, well known to our citizens. He grew up in our midst from boyhood to manhood, and was ever among our best boys and most energetic, industrious and capable young men. Leaving this city he went to Chicago, where he has since been connected with his father in the publication of the BEE JOURNAL. The bride is the daughter of the Hon. Henry Rickel. She is highly esteemed by all who know her, a lady of culture and refinement, and those who know her best think Mr. Newman a highly favored person in securing so grand a prize."—*Cedar Rapids Times.*

Among the bee papers the following very friendly items have appeared:

"We notice by the Cedar Rapids *Daily Republican* the marriage of Mr. A. H. Newman, business manager of the AMERICAN BEE JOURNAL, and son of the editor. May God bless the young people, and may their ways through life be pleasantness and all their paths be peace."—*Gleanings in Bee Culture.*

"We understand that A. H. Newman, of Chicago, was married to Miss Lillian M. Rickel on May 6. The wedding was a brilliant affair, and was enjoyed by a large number of invited guests. Mr. Newman is son of Thos. G. Newman, and the two gentlemen are proprietors of the AMERICAN BEE JOURNAL. The happy pair have our congratulations, and we trust that their *honey* moon may never *wax* dull, nor the *new*-man become old, or his shadow grow less."—*Bee-Keepers' Exchange.*

"MARRIED, on May 6, Mr. A. H. Newman, of Chicago, to Miss Lilian M. Rickel, of Cedar Rapids. We have a very pleasant recollection of young Mr. Newman, at the National Convention in Chicago. We understand the happy pair were fairly "loaded down" with elegant and expensive presents from parents and friends, all of which and much more we believe them to be worthy of. We suppose Mr. Newman will still continue, with his father, the publication of the old AMERICAN BEE JOURNAL, and we wish both it and them abundant success for the future.—*Bee-Keepers' Magazine.*

Many thanks, friends, for your generous wishes and kind words. Bro. King's thoughts revert at once to the *practical* work, the future of the young people. This opens up another very important question, and, as it is one that interests our readers, we may be pardoned for referring to it here.

For some years past our "son" has devoted himself untiringly to the management of the bee-keepers' supply department of the business; and he has attended to it so promptly and faithfully in all its details (as our many patrons well know), that we have long felt that it was in a peculiar manner a business of his own—one for which he was eminently fitted, and one, also, to which he was fully entitled. Now, therefore, as he has become the head of a family, we deem it but "just and right" to wholly give up the business of "bee-keepers' supplies" to him.

The BEE JOURNAL has so far engrossed our time and attention, that we have scarcely known what was going on in the department presided over by our son, who has been promptly answering thousands of letters and filling tens of thousands of orders for goods in that department, until he has become quite familiar to our patrons.

Those who have heretofore been dealing with the firm, are cordially invited to continue their patronage to the SON; in doing so, they will only be continuing the pleasant relations of the past, under his individual name. At the same time they will be giving their patronage to a steady and industrious young man, whose business qualities, integrity and conscientiousness are unquestionable, and who has ample capital to carry it on extensively.

In another column will be found a notice of the dissolution of the late firm and the division of the business into two separate and distinct parts—publishing the BEE JOURNAL and books and pamphlets on bee culture remaining with us, and the bee-keepers' supply department going to our son—Alfred H. Newman.

As heretofore, our energies will be devoted to the BEE JOURNAL, and the development of the scientific and practical management of the apiary.

The Dunham Comb Foundation.

This style of comb foundation is so decidedly taking the lead that almost all the prominent manufacturers have been obliged to get that kind of a machine to satisfy the demand. When, thinking of our experience with it, we cannot wonder at this very decided preference. The following from the *Bee-Keepers' Magazine* expresses our views exactly, and we will give it to our readers:

"Without wishing to say a word that will detract one iota from the true merit of any of the different styles or makes of foundation, I will observe that this season I have put in over 100 Langstroth frames, filled to within an inch or a half-inch of the bottom bar with the Dunham Foundation, and I have yet to see the first signs of sagging. I fully believe, with the use of this foundation all the fuss and bother of wiring can be dispensed with. Another great advantage it has over many other makes is its high side walls. The amount of wax forming the base of the cell walls is sufficient to enable the bees to complete the whole cell without any extra addition. In numerous instances, within 24 hours after the introduction of the card, it has been worked out and filled with eggs. When we consider the great start it gives a colony of bees—the certainty of having all nice, straight worker combs—the ease of controlling the number of drones, who will say bee-keeping is not being reduced to a science that is making most prodigious strides?"

☞We notice by the Swiss bee-paper, *Bulletin D'Apiculteur*, that the Dunham comb foundation is being introduced into that country, and is very favorably received.

☞The premium list of the Caledonian Apiarian Society is received. The seventh show of honey, hives and bees will be held at Kelso, Scotland, July 27-30, 1880. The Society offers 34 prizes, consisting of cash, medals, etc., and, under the management of its energetic Secretary, R. J. Bennett, Esq of Glasgow, it will be very successful. Being an "honorary member" of this society, we hope it will have a prosperous show.

Ants.—Mr. W. W. Burnet has an article on page 331 of this JOURNAL entitled "Ants Troublesome in the Apiary." As this article refers to Prof. Cook, we sent him a proof-sheet of it, and have received the following comments, which would have appeared with that article but it was printed before we heard from Prof. Cook, who remarks as follows:

Our friend Burnet is a veritable "Mark Tapley," and can be very jolly under difficulties. I have never known ants to be injurious to bees, though each season they put in an appearance.

The Paris green used could not have been genuine. Much of this article is so diluted that it has little or no virtue. A neighbor told me a few days since that it would not kill the potato beetle.

Mr. Burnet might set his nuclei all on a bench whose legs should rest in basins containing carbolic acid. This evaporates slowly, and is so obnoxious that it repels all insects. Will Mr. B. try it and report. A. J. COOK.

British Apiarists.—At the meeting of the British Bee-Keepers' Association on May 12, it was arranged that Mr. Cheshire should represent the Association at the Royal Agricultural Society's Show at Carlisle in July next, Mr. J. Lee, Jr., acting as expert. Mr. Cheshire presented to the Association a frame hive specially constructed for traveling, to be used in explaining the management of movable comb hives at manipulations in the Association's tents. It was stated that Mr. Carr had consented to lecture for the Association in Ireland, Mr. Abbott acting as manipulator. The Judges were selected for the coming show at South Kensington, and arrangements were made for lecturing at the same time and place in the bee tent.

In Mr. H. H. Flick's pamphlet published in 1873, a copy of which is in our desk, we find that he was then recommending "small sections" for comb honey, chaff packing for winter prepartion, and various other things which are now considered *new* and *progressive*. Mr. Flick seems to be entitled to the credit of priority on many points.

Weevil.—R. R. Stukesberry, Clinton, Ind., sends us one of these, which he found working on an apple tree, where the young growth starts, and asks "what is it;" they cut it off entirely? We sent it to Prof. Cook, and the following is his reply:

These beetles are the New York weevils (*Ithycerus noveboracensis*—Forester). I have received several of them, and described them in State papers. Their lengthened snout shows them to belong to the *curculionidæ* or weevil family. This species was named by Forester *nove-boracensis*, or New York Weevil, doubtless because he received it from New York. It is, however, widely distributed throughout the northern United States. It is about 15 milimeters long (6-10 of an inch) to tip of its snout. It is gray in color, lined above with dashes of white and dots of black. Though resembling the curculio, seeming somewhat like a large edition of the "Little Turk;" it differs in having straight, not elbowed, antennæ. It does not go through its early stages in the earth, but is a borer in the hickory, oak and other forest trees.

The evil it does by girdling and thus destroying the twigs of the apple and other fruit trees is sometimes very great, and when numerous it is a serious pest. The only remedy I can suggest is that used in capturing the curculio—the sheet and the mallet. Their habit of falling and feigning death when frightened or disturbed makes this equally effective in capturing these larger pests.

Please send me 15 or 20 of these fellows. A. J. Cook.

Bees in Kansas.—The first quarterly report for 1880 of the Kansas State Board of Agriculture, has the following regarding apiculture in that State:

Seventy-five per cent. of the number of stands of bees in the State are in the 19 counties nearest the Missouri line. The reports from these counties are unanimous that apiculture is profitable when it is made a specialty and the proper time and attention are paid to it; otherwise it is not. This industry is not profitable in the western counties, the absence of timber and honey-producing flowers and grasses being the chief cause.

☞ Italian breeders of bees are procuring the Cyprians to breed from. This is a confession that they are superior.

Importance of the Bee to the Ancients.

From an essay read before the Linnean Society of New York, by Wm. C. Wyckoff, in January last, we extract the following:

Of the insect tribes the most directly useful to man have been the producers of honey, silk and cochineal. The importance of the bee to the ancients will be realized when we consider that they had to rely on honey alone for the means of sweetening food. Plato and Sophocles were honored by being called respectively the "Athenian Bee" and the "Attic Bee," in allusion to the dulcet style of their writings. The great attraction of the land which the children of Israel struggled so hard to attain, was due to its reputation of flowing with milk and honey. In the paradise imagined by Lucian, honey spouted from some of the fountains. Sugar was then little known, except as one of the rare and curious things from the far east, and Strabo probably refers to it in a description of certain stones that had the color of frankincese, and a sweetness greater than that of figs or honey; they were obtained in India. Pliny is more precise; he says: "Arabia produces sugar, but that of India is preferable. It is a kind of honey, collected within reeds—a gum, almost white, brittle to the teeth, the largest (pieces) of the size of a hazel-nut, used only in medicine."

Let us imagine, for a moment, that sugar should become equally rare at the present time. Would not the sweetness of life seem to have departed? In the regions beyond the Ister, according to the story told to Herodotus, the land was so completely possessed by bees that travel was impeded. But even if favored with such a source of supply we would find the Tracian honey a poor substitute for the $80,000,000 worth of sugar now annually imported into the United States.

☞Mr. G. M. Doolittle in a letter remarks as follows: "That I believe in practicing what I preach you may know, as I have received 503 subscribers for the American Bee Journal. This is just 19 more than I have received for all the other bee papers combined." This is a good showing when it is remembered that Mr. Doolittle advertises all the bee papers side by side at club rates, and is very flattering for the American Bee Journal.

Extracted vs. Comb Honey.

The following sensible article we found in the *Indiana Farmer*. It will answer many inquiries sent also to us:

Several correspondents have asked "What kind of honey pays the best, extracted or comb honey?" Another, "How much more extracted than comb honey can be produced per colony, the conditions being the same?" And another asks, "Will it pay to use an extractor, and sell honey for 10 cents per lb., when it will bring 20 cents per lb. in the comb?" We can only answer these questions in a general way. So much depends on conditions and circumstances, that the producer only can answer satisfactorily to himself.

As to which kind will pay the best, depends on how it is to be sold, wholesale or retail, distance to market, etc. As a general thing the difference in prices between extracted and comb honey ranges from 5 to 8 cents per lb. You can probably produce ½ more of good, well ripened, extracted honey, and where you have a good home market at retail, extracted honey will bring within a few cents of as much per lb. as comb honey.

We would advise all to produce both kinds at first; develop your home market as much as possible, then produce the kind that your market demands, deciding for yourself which will pay you best. In producing extracted honey, great caution is however required to be used in not extracting unripe honey, and in extracting so much as to rob the bees of the necessary stores. Some bee-keepers practice extracting the honey as fast as it is gathered, but honey in this condition lacks the fine flavor that belongs to a good article of extracted honey, and is liable to ferment and sour.

The nectar gathered from the flowers cannot be called honey until the evaporation and ripening process has so far gone on that the bees have commenced capping it over. None but a thoroughly good article should be produced or placed on the market, as the price will depend on the quality you offer. A good article of extracted honey has excellent qualities, which, when well known, will commend it to all consumers. You should only produce extracted honey that is equal in every respect to the very best article of comb honey. Comb honey of course speaks for itself, and needs but little urging. With the assistance of foundation, the cost of production is very much lessened and the quantity largely increased.

Oleomargarine.—The Cincinnati *Lancet and Clinic* states that a curious experiment was made upon a large scale with oleomargarine, and which proved that in this instance, at least, it was not what its advocates declare it to be—a wholesome and proper substitute for butter. It was placed without remarks upon the table of the Institute for the Blind, near Louisville. It was taken at first by the inmates in ordinary quantities; gradually less and less was asked for until the blind people ceased altogether to eat it. There was no complaint about its being bad, only it did not supply the want which nature or education had created.

M. Donny has described, in a note to the Belgian Academy, a simple means of detecting artificial butter. He finds that if artificial butter is heated beyond the boiling point it produces little froth, but many violent jerks during the boiling, while the gaseous matter separates in clots and becomes brown, the fatty portion retaining its color. Pure butter, on the other hand, froths abundantly, and the whole takes a characteristic brown tint, without the violent ebullition of the artificial compound. He expresses some surprise that this simple test had not been discovered before.

Separators.—Concerning the use of card board and paper for separators, we have received the following inquiry:

Pine Grove, Pa., June 3, 1880.

In the BEE JOURNAL of September, 1879, page 389, mention is made of a kind of card board used for separators. Have you it for sale, or where may it be obtained? W. H. STOUT.

It is pronounced not to be a success. Mr. A. B. Beall, of Clifton Springs, Fla., says: "My bees would not allow of the use of paper for separators, having gnawed it in pieces, and carried it out of the hives." See page 405 of the same number of the BEE JOURNAL. Some are trying thin wood for separators, but so far tin has been the only thing, we believe, that has proved uniformly successful.

Correspondence.

For the American Bee Journal.

My Plan for Dividing Bees.

L. H. PAMMEL.

Why is so little written about dividing bees? Is it not beneficial for the bee-keeper to divide his bees in order to save time, secure uniform colonies, and increase to his liking? I have practiced dividing bees for the last 3 years, and I have reaped large harvests of honey and a great increase of colonies.

In the spring of 1877 I had 4 colonies of Italians, and in the fall had 16, good ones, with some surplus honey. I must certainly give credit to the good season we had that year for honey.

I have used several methods in dividing bees. I will give a short description of my best method: In order to divide, the day should be a warm one, after the white clover harvest has commenced; then about noon, when the bees are mostly flying, take a hive of the same color as the one you wish to divide, which must be removed to some other part of the apiary, and the new one put in its place. Take 6 frames of brood and honey from the old colony and place it in the new hive, giving the former 6 empty frames or frames filled with comb foundation. (The latter will keep the young bees and queen at work.) Fill the remainder of the new hive up with empty comb, and when the bees of the old colony return home laden with pollen and honey, they will find a place to store it. If you have no young queen to give them, place queen cells in the new hive and the bees in the new colony will become active and diligent workers.

I divided a colony last year, and as I had not a young queen in my apiary I was obliged to use queen cells, and the result was that it was the best colony in the apiary in the fall. I believe it to be better to use a young mated queen, if it can be had, but if you put in queen cells you will have better colonies than by natural swarming.

Dividing bees, which was given to us by Dr. Dzierzon, constitutes a part of the science of bee-keeping. Turn the pages of history, and see how little our ancestors knew about bee-keeping. Even Virgil, one of the best scholars of ancient times, knew but very little of the science of bee-keeping; but still it is interesting for us to know how gentle and humane he was to his bees, and how carefully he hived the swarms. Had Virgil the chances that most bee-keepers now have, he would certainly not have clung to his old "hobby." Yet some bee-keepers to-day, with all their advantages spread before them, are still using box hives, and know as little about the interior of a bee-hive, when the colony is at work, as most of our ancestors knew. They often complain of swarms flying away; let them get movable frame hives, and then they can divide their colonies, and will not be bothered about swarms absconding.

Each day throws new light on the subject, though many think we are now fully acquainted with the art. We must be progressive bee-keepers, and always be ready to accept advice from the more experienced and scientific apiarists.

La Crosse, June 10, 1880.

For the American Bee Journal.

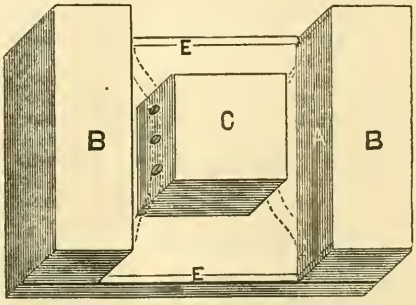
Block for Nailing Sections.

F. H. SEARES.

The accompanying engraving represents my machine for nailing surplus section boxes. The outside dimensions of the engraving represent the backboard, which is 6x9 in.

Block C is put on the center of the backboard, and is 2x3x2½ in.; the dotted lines represent the springs, which I make of a heavy clock spring, and fasten to the block C with 6 screws.

B B represent end blocks, which are 2x2x6 in.; as the trueness of sections when nailed depends upon these, great



care should be taken to have them perfectly square, and just the right distance apart.

A A represent the sides of blocks, B B, which the springs press against. I put the narrow pieces, or ends of section behind springs, which hold them firmly against A A. I then put on the wide pieces, or sides, letting it project in the grooves E E which are cut in the backboard, just the right depth to ad-

mit of it, and at the same time act as a gauge. I nail on one side and then reverse the machine and nail on the other side.

With this machine I can nail from 40 to 50 sections per hour, and they are all perfectly true, and much stronger than when nailed without the machine, because they are held perfectly solid until finished.

Girard, Erie Co., Pa., June 7, 1880.

For the American Bee Journal.

Wonderful Instinct of Queen Bees.

R. M. ARGO.

There are many facts of the wonderful instinct of queens that ought to be kept in mind by every bee-keeper. Such would prevent the loss of many a queen.

Last May I received 2 very bright queens from the South, and, in transferring them to the cage in order to introduce them, I carelessly left the windows and doors open. My apiary is just back of my saddle shop, on the north side, and all cages are opened in my work room, on the bench before the southern window. One of the queens escaped from the cage, just as I was putting her in, and I grabbed at her twice while she was "marking" the window, but missed her both times. I then put the cage in the window, knowing she would *return to the very place she left;* but in a moment every bee from the cage took wing and went off with her. I walked out into the street and saw they were about out of sight. After waiting some time in vain for their return, I concluded they were not intending to come back; but just as I approached the door, I noticed that they were rapidly approaching the window again. At last I saw the queen approach and go in. I then ran in to let the window down, but she was too quick for me, and went off again. I then closed both doors and let down the back window, and stood inside of the front one ready to let it down the moment she came in. I put the cage a little further back from the window to draw her in, and on the top of a small nucleus which I had on the work bench. In about a minute she came in again. I let the window down; she flew to the ceiling above the window and was captured at once. I had noticed her "mark" the window as she left; but even then, if I had been ignorant of the fact that a queen will always return to the very spot she left, I might have lost her for good.

After communicating this fact to the sender of the queen on a postal card, I received the following answer of a similar case:

"My apiary and residence is situated about 5 acres from my drug store, and whenever I have queens to ship I cage them in my apiary and bring them to my store to give the cages the finishing touch and address them. Last year when I sent queens by express I used a tin tube for water. One day having a lot of queens to ship, on a table in my office in front of an open window, and in taking the cork out to introduce the tin tube, one of the queens got out of the cage and flew through the window, and went out of sight after flying around 2 or 3 times. I thought she had gone back to her hive, but an instant after, to my astonishment, she made her appearance at the window and flew away again. I at once placed the queenless cage on the window, and it was but a minute before she came and lit on the cage, and I secured her with my hat. She had marked the location, and I have no doubt the hum of the bees attracted her again to the spot."

I recollect losing a very valuable queen in 1867 by being ignorant of the above fact. She escaped while in the act of letting her out of the cage at the hive, and I did not then know that she would return; so I closed up the hive and went into the shop to work.

I have a wide Langstroth hive at present, 18 frames, that has 2 queens, both laying and getting along well. I am watching to ascertain how long they will both remain in the same hive.

While introducing a queen from Indiana May 29, the cloth tied on the mouth of the cage slipped off, just as I was putting it down between 2 combs, and the queen ran out among the bees, and, as they showed every sign of accepting her, I let her remain among them, and all went right. This is the quickest way I ever introduced one. I had just taken 2 frames each from 3 colonies with the bees and brood, and put them together in a new hive, in which I intended to introduce her. I would not advise anyone to try this quick method, for only 1 in 10 may succeed with it. The bees being suddenly mixed together from these different hives, she was readily accepted.

The season thus far, on account of dry weather and cold, drying winds following the few rains we have, is as bad as that of 1878, if not worse. There are very few swarms. Such poor seasons will cause nearly twice as many to quit bee-keeping as there are beginners in a year.

Lowell, Ky., June 18, 1880.

For the American Bee Journal.

The Past Seven Months.

JAMES HEDDON.

My bees went into winter quarters well laden with honey and cider. We had a large yield of the latter, and do not suppose Novice would have given 25 cents apiece for our colonies. I had no fears on that score however. The winter was fitful, and the bees experienced some cold weather interspersed with days warm enough to fly every 2 to 4 weeks. My loss in colonies was so small it is not worth mentioning—say 10 out of 400. I had all out-doors, with a large proportion packed. I had about 48 colonies unprotected on their summer stands, and lost 1 of them.

Having wintered well, of course there was no loss in springing. Three hired men and myself commenced work in April, and, though we have worked fast and long hours ever since, we can hardly say we are up with our work yet. Had not the season been about 3 weeks late, we should have been much behind. I mention this to give some of the newer honey-producers an idea of the amount of labor we find with 2 apiaries of about 200 colonies each. We never will make our hives and other fixtures till we see how many of our bees are wintered.

I have tried cheap labor (with boys, girls and women), but, with but few parts of our work, do I find them up to my idea of perfection of manufacturing our implements. I believe there is more profit in men that are experienced, or at least physically and mentally apt and reliable. I could give such an one employment now.

Seven days ago, over 100 colonies in our out apiary did not have 1 pound of honey in their hives on an average. I rose in the morning (or night rather, for it was half past 3), to hasten about mixing 250 lbs. of honey (all I have left) with a barrel of sugar, to feed enough to last these colonies a few more cold, rainy days. when up came a bright sun, and, as clover was plenty and in bloom, I concluded to try another day of hope, remembering that

"After clouds, sunshine,"

when my hopes were no longer blasted. but in three days the hives were heavy and boxes glistening with honey. Many colonies now have 30 lbs., or about ⅔ of their surplus capacity, filled.

Verily "one extreme follows another." In no time of my experience with bees did I ever see "blood tell" more than during this struggle for life and something to eat, through these darkest of all days, within my experience. At present this season bids fair to be an average one.

According to agreement, I will now give you a report of my out apiary for 1879: After selling about 50 colonies of the flower of the apiary (both as regards stock and strength), I commenced the season with 99 colonies, in good average condition. I closed with 225, 18 of which were taken up, leaving 207 in shape for wintering. They nearly all wintered well. The season for increase was bountiful to a dread. For honey it was as follows (we have 3, and only 3, surplus crops): 1st, clover and whitewood; never better. 2d, Basswood (usually best of all); about ⅛ of a crop. 3d, Fall flowers (buckwheat, boneset, golden rods, fire weed and asters); almost a total failure, for the first time to my knowledge.

Our hives, 5x6x2 sections, and in fact every fixture, are just alike in this apiary. This makes the labor much less. This apiary stands in what, I believe, the best honey field I ever saw. We put 12 of these 5x6 sections in a case, which averages 23½ lbs. net. That is "taring" the case and "grossing" the sections. (The cases are glassed, the sections are not. We use no separators.) We sold 230 cases, at an average of about 18½ cents per lb., or $4.35 per case; also 2 barrels of extracted honey at $30.05 per bbl. net cash; also about $5 to $10 worth retailed, and no account kept.

We hired one man then at $25 per month and board, for 8 months; the other expenses amounted to about $250 more, making about $450 expenses in all. This season I employ this man and a boy, at a cost of $40 per month. The apiary contains ½ acre of land, worth $100, a house, 16x24, worth $300, a barn, 18x30, worth $125, a honey house, 12x48, double wall, cost $300. We use every inch of this room, and the house and barn are 2 stories high, and in tip-top order. Probably the fixtures, tools, etc., are worth $100, and the 200 colonies of bees, in their present condition, and hives, $8 each, or $1,600. This is about double the capital of last year, a part of which I reared, but most of which I bought. I hope these figures—which are very close in round numbers—will answer many questions which I have received in private letters from inquiring friends in regard to capital required, and the income from bee culture. I shall this year put this locality to a pretty thorough test, in the important and little understood matter of "over-stocking."

The extracted honey spoken of was taken from 5x6 sections not finished

sufficiently for market. We aim at obtaining all comb honey in this apiary.

The sections were nearly all figured white spruce, and the cases finished nicely, and, though they helped to swell the expense fund, I know they had much to do in bringing me the $1,070 income. Conner, Burnett & Co., of Chicago, sold the larger part of this crop.

My home apiary, of about the same size, I have no accurate account of, but I know it did not yield me as great profit in money, and among the reasons are, that the location is not as good; also that I did considerable queen rearing here, besides giving much time to other supplies and entertaining visitors.

If you will excuse these personal details, which will be of little value to many of our older producers, on grounds given above, I will next month give you an account of my experiments with comb foundation of different kinds, including a new variety, which, from my present experience, I am very favorably impressed with.

Dowagiac, Mich., June 14, 1880.

For the American Bee Journal.

Queens Duplicating Themselves.

A. F. MOON.

It appears, from reading the June number of the JOURNAL, that Mr. Pike wants me to bind myself to pay all expenses of the committee in making the test, which is a light and quick job, when they once get in possession of the queen. Did any one ever hear of such a thing? It is generally supposed that when a man has superior stock that he spares no time to place the same before the public, either with specimens of his stock or by advertising. I offered to pay all the expense in testing this matter, besides offering to pay $25.00 for each of the 12 queens, they to be exact duplicates of the mother queen bred from. But this does not seem to be satisfactory, and my old friend thinks I am laboring under mental derangement; also that my answers to his questions are "rather obscure." No doubt the readers of the JOURNAL are watching to see where the "obscurity comes in," and in time will better understand it.

To cut the matter short, I will not be particular, if the "princess" herself is all right, and the daughters are duplicates of the mother, *if one-half of the* 12 *are purely mated;* I will make a great bargain to get them at $300, as nearly all of them are at present engaged. I will take them, and bind the bargain with good security, acknowledged by the Mayor of the city, in whose hands the security will be placed, that upon receipt of the affidavit of the committee that the queen has proven true and in color will fill the bill, that the $300 shall be paid over to Mr. Pike. But I must exact of Mr. Pike that he binds himself in a similar manner to the amount of $75, in case his queen does not prove what he expected, and that he pays the expenses of the committee in case that the daughters are not exact duplicates of the mother queen. This, Mr. Pike (as an honest man) cannot refuse, as my time and credit are worth something—besides he is sure of not having it to pay.

If the proposition suits, let me know by letter, and the necessary papers and security will be sent to the committee. I expect the same of Mr. Pike, and unless he complies, he need not say anything more about his fine "princesses."

For the American Bee Journal.

Queen Fertilizing Cage.

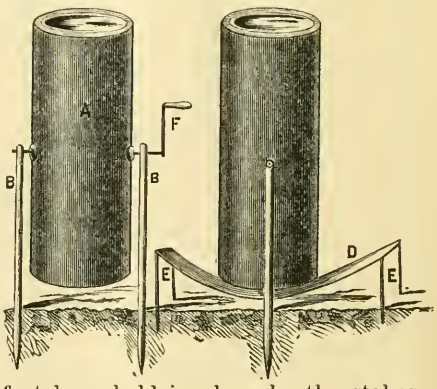
MARTIN HAAS.

The accompanying engravings give two views of my queen fertilizing cage.

Fig. 1 is the cage, 8 feet long and 3 feet in diameter. It is made of cloth and wood, and has a large glass in each end. B B are 2 posts driven into the ground, on which the cage revolves.

Fig. 2 is a side view of the cage. D is a piece of black cloth 3 feet wide and 9

FIG. 1. FIG. 2.



feet long, held in place by the stakes E E; the cloth darkens the lower glass; the drones and queen will fly to the light glass above, and by turning the crank F, fig. 1, half round, they will fly the length of the cage again. Thus the queen can be kept flying with the drones till the desired result is attained.

Give this a fair trial, and I think that by a little practice and improvement, it can be made to work successfully.

For the American Bee Journal.

Getting and Caring for Box Honey.

G. M. DOOLITTLE.

As July is the great honey month with most of us, perhaps a few words about how to secure and how to care for box honey may not be amiss. Your boxes should all be on the hives before this reaches you, unless some of your colonies are very weak, in which case you should unite them at once in the manner I told you in the AMERICAN BEE JOURNAL for June, 1879.

There is but little chance for surplus honey in boxes from weak colonies, although by means of the division board even a nucleus can be made to work in boxes to advantage; still, as weak colonies are generally treated, no honey is the rule. Therefore, my advice is to have all colonies strong by the middle of June, even if you have to reduce your number of colonies one-half or two-thirds. There is more money in 10 hives overflowing with bees than in 30 weak colonies. If any have been so slack as not to have boxed their bees as yet, let them do it at once, and do not forget, if you wish a start made in the boxes immediately, to have the centre tier of top boxes full of comb. If you have no comb, use full sheets of the thin foundation in the centre tier, but I am not yet prepared to advise its use in all. If you have no comb except for starters, and do not feel able to purchase foundation, go to a hive and cut out of one of the frames a piece of brood large enough to fill just one box, and fit it in place so it will not fall out, placing it in the centre of the top boxes, and your bees will be at work in the boxes forthwith, if strong enough in numbers. If you have been careless and not cut out your drone comb, use the drone brood for this purpose. When you are taking off your honey, you can cut out this brood (if drone) and throw it away, or leave it, letting the bees hatch, and have it filled with honey. Of course, this honey will have to be classed as second quality, but as the comb is already built, it will bring more in that shape than if extracted and the comb made into wax.

This getting bees started in the boxes early in the season is one secret of successful honey raising, as a week's delay in starting often makes a difference of a good yield, or no yield at all.

After all the colonies are at work in the boxes look after them, and if you see they are getting crowded for room add more boxes to the sides, (if you have side box hives), or tier up those on top. However, do not do this during the last half of the honey season, for if you do you may come out as we did once, with all of our boxes nearly filled but none fit for market.

As the season draws toward its close shut the bees off the side boxes, and get those on top as compactly together as possible, so that all will be filled and finished, as far as possible, with white honey, and not finished off with dark.

Next to getting box honey is the care of it. The lack of care is one great cause of the ruinous prices we are often obliged to take in market. Mr. A takes his honey to market after it has stood on the hive till it is dingy with the soil of the bees traveling over it, and is often put up in boxes or cases having a slovenly appearance, with a determination to sell it for what it will bring, which is often not enough to cover the cost of production of white honey. Mr. B goes a few days after with his snow-white combs put up in handsome cases, and finds he has to compete with A's in price or not sell at all, as the parties having A's honey know if B's is put along side of A's, they cannot sell a pound of it till all of B's is disposed of; and thus the price paid for A's honey is used as a leverage to bring all honey down to that figure. These things ought not so to be. Very good, says one, but how will you change such a state of affairs? There are two ways of doing it. First, get your own honey up in the best shape possible. As soon as it is sealed take it from the hives, going over your whole apiary at least once a week, and take off all that is finished before the bees change the color of the snowy combs. Pack it in a room with a high temperature so it will grow thick, to prevent any leaking of honey when you crate it, or upon reaching market. Keep an eye out for the moths, and if troublesome use sulphur, after which pack it for market in neat, tasty crates. Now, call in all of your bee-keeping friends to look at it, and ask them what shape theirs is in, and inform them as to the probable prices of honey put up in nice shape. Have samples of the bee papers at hand, and do not let one go away without subscribing for one or more of them. Does friend Heddon object? Friend H., we have not added any more to our ranks, but if they will read the good old AMERICAN BEE JOURNAL, we shall hope to enlighten them. I do not believe in "gushing," or large stories to draw the simple into bee-keeping any more than you do, and I admire your sensible articles on this point; but I tell you, one of those old fogies let loose without a bee paper for a rudder, does more harm to the honey

trade than a dozen producers like yourself.

Second. If you cannot get your friends who keep bees to adopt a nice, tasty style of package, and get their honey off in nice shape, do not let them get it in the market at all. Buy it yourself, or at least make them an offer for it, for all it is worth, so if they should not get the price in market you offered they will bring it back to you. After having bought it, dress it up in the best shape possible and sell it with your own crop, and thus, as a rule, you can get out of it without loss, and after a few years of energetic work on the part of intelligent honey producers, we shall have a more uniform price for our product. I have had the handling of nearly all the honey in my neighborhood for the past 5 years, and although as a whole I have lost on that I have bought, still I am satisfied I have realized more on my own.

Borodino, N. Y., June, 1880.

For the American Bee Journal.

Cyprian Bees—American Apiculture.

C. J. H. GRAVENHORST.

The valuable qualities of the Cyprian bee are now everywhere acknowledged, and, as a matter of course, the demand for the same daily increases. Even the Italians came gradually to the conclusion that the Cyprians are in many ways superior to their own bees.

Prof. Sartori, in Milan, purchased a Cyprian queen in Prague, with the intention of improving his bees. But more than that was done by Fiorini in Monselice, Italy. He started, on Nov. 13, 1879, for the island of Cyprus, and there purchased eight colonies, which he took with him to Italy to improve his apiary by introducing them into his hives. He arrived home on Dec. 12, 1879. Fiorini, who is very circumspect and full of experience as a bee-keeper, will surely gain his point. He will be able to raise a species of bees, by choosing with care and bringing together bees from both races, which will unite the good qualities of both. It created a joyful sensation among the admirers of the Cyprian bee in Germany that steps are taken also in America to introduce that race of bees into that country. Messrs. D. A. Jones, of Canada, and Frank Benton, of Michigan, are importing the Cyprians with success. Both gentlemen (with Mrs. Benton) paid me a visit last February, when on their way to the island of Cyprus, and remained at my house for 2 days. I was greatly pleased with their visit, and we conversed very profitably together about bees and apiculture. From here they went to Cori and the Count Kolowrat, to whom I had previously sent word as to their coming.

The American Bee Journal.

I have had the pleasure of reading the AMERICAN BEE JOURNAL ever since its commencement by the late Mr. Samuel Wagner at Washington, D. C. In every volume I have had the honor to contribute articles for its columns.

I have tried to study from it the apicultural conditions of America, and I am indebted very largely to this paper—which now is, through your ability as its editor, and through your exertions, the most renowned of apicultural journals—for much information that has enabled me to report and judge of American bee-culture with intelligence.

Reports from it have been published in many of our bee-publications, and I have also translated many articles from your valuable journal and given to our publishers who have printed them. These were read everywhere by apiarists in Europe with great satisfaction. I believe that, through these translations, I have done much towards creating a better knowledge and comprehension of American apiculture, bee-plants and the excellent productions of the American bee-keepers.

More than this, I have found strong support in the AMERICAN BEE JOURNAL against the many attacks that have been made on American apiculturists, and against which I have made a vigorous defense. You will find, for instance, in No. 1 of the *Bienen Zeitung* an article from Hannemann, in South Brazil, in which this gentleman talks of me as an emigrant agent, who is trying to coax German bee-keepers to go to America, just because I have defended my American brother bee-keepers from outside attacks.

With great arrogance, Hannemann denies that the Americans live in a country which is the best honey-producing country on earth (see AMERICAN BEE JOURNAL, December, page 533). He pronounced the magnificent honey harvests of Grimm, Wilkin and others, as nothing but humbug, and attempts to prove that it is impossible to obtain 112 lbs. of honey from one hive during one season.

Last year he wrote a lengthy article in the *Bienen Zeitung*, in which he made strong attacks on American bee-culture. That article has been ably refuted by Greiner Bros., of Naples, N. Y., in the *Bienen Zeitung* No. 9 of this year. It indeed pleased me that these gentlemen so clearly exposed the mistaken views

of said Hannemann. But before that article appeared in the *Bienen Zeitung*, I had sent to the editor of that journal a long communication, in which I made it a point to prove to Hannemann how much he was in the wrong, when he attempted to belittle American apiculture and putting himself so much in the foreground.

He denies the remarkable honey crops of the Yankees, simply for this reason (do not laugh, dear friend), because he never realized the same results himself! I have shown to him that he never will be able, notwithstanding his blessed Brazil, to obtain such quantities as have been obtained by the most successful American apiarists, because he only and solely carries on *swarm-culture*, gains about 700 swarms from 135 hives, which he stows away in old packing boxes, barrels, etc., and, as he seems to know nothing of honey extractors, he obtains only strained honey, which he divides from the wax by means of a steam press.

These hints will prove to you, I think, how arrogantly Hannemann tries to drag American apicultural matters into the mud. But at the same time, the proofs will be furnished to you in an article, which was written by me, and which will shortly appear in the *Bienen Zeitung*, that I have not read the AMERICAN BEE JOURNAL up to the present day without having derived some benefit from it; and, also, what sympathy I feel for my transatlantic brother bee-keepers.

Braunschweig, Germany, May 6, 1880.

From the Farmers' Home Journal.

Rearing Queens and Other Matters.

CHARLES F. MUTH.

Where a swarm is deprived of its queen, the whole colony is in a state of alarm. The inexperienced will observe the unusual commotion in the hive, and squads of restless bees will be noticed running about the outside of it. About 24 hours later, quiet is restored, the bees have realized their loss, and proceed to start queen cells. The first work noticed is the widening of those worker cells containing eggs or larvæ, from which they intend to rear queens. We can show them the very cells we want them to use, by widening the openings somewhat, with the end of a pencil.

Worker bees are imperfectly developed females; but from the egg, which produces a worker bee under ordinary circumstances, a queen bee can be reared by enlarging the cell and supplying the larvæ with the necessary food, so-called "royal-jelly," a mixture of bee-bread and honey. It requires 21 days to hatch a worker bee from the time the egg is laid and 16 days to hatch a queen, under ordinary circumstances. An hour or two after the young queen has made her appearance, she can be noticed running leisurely over the combs apparently unnoticed by the bees; and wherever she finds a queen cell, we can see her actively at work biting a hole in it at the side, through which she introduces her sting, killing the queen inside. Every other rival queen cell will be served in the same manner, generally in less than 24 hours.

If the colony was deprived of its queen, in order to breed queens the prudent bee-keeper will commence to cut out the capped queen cells on the tenth day after the colony was made queenless, and have them hatched out by colonies made queenless for the purpose, or nuclei colonies by laying them on the frames above the brood in the hives.

The stock of bees can be controlled with almost the same certainty as that of horses, cattle or hogs. We select the colonies from which to breed queens, and the colonies from which to breed drones (male bees). As fertilization is consummated on the wing, it should be our object to have an abundance of choice drones on hand in due time, that our young queens, who make their bridal trips generally when 4 or 5 days old, have more chance of meeting one of them than a common drone. Herein lies our only reliance of a pure fertilization until that art is better understood.

When the young queen returns from a successful trip, she has the mark of the drone still adhering to her body. The impregnation lasts for life. She moves among the bees like one of them, unnoticed, until the second or third day, when her body appears more developed, looks larger, longer, and she begins to lay eggs. A marked attention is now paid her by the bees of the hive. The sole office of the queen is to lay eggs, while the worker bees build new combs, clean the cells of old combs for the reception of eggs or honey, and do all the work pertaining to the colony.

The labor seems to be divided equally and distinctly. Newly hatched bees, for instance, live first on bee-bread only, until after a day or two; they partake also of honey, and commence to be nurses for the brood, supplying the larvæ in the cells with the necessary food—a mixture of bee-bread and honey. When 5 or 6 days old, the young bees become wax-workers, comb-builders, etc., and within 10 or 12 days they are of

age, go out foraging, and do no more housework if they can help it. Five to 6 weeks is the age worker bees attain during the height of the honey season. They disappear—worn out by hard work, a prey to birds and other enemies, drowned, get entangled in the grass, etc. A hive would be decimated in a short time were it not for the great fertility of the queen, who is capable of laying as many as 3,000 eggs in a day.

This is the routine of business in a bee-hive. But there is no rule without an exception. So we find in early spring the old bees nursing the first young and doing all the housework. No hive is in a thriving condition without plenty of young bees; and as the honey yield is often of a short duration no colony can bring in a large crop of honey without a large number of old worker bees at the proper time.

To have strong colonies in the early part of the season, and to keep them strong as long as the season lasts, should be the object of the bee-keeper.

It happens often to inexperienced bee-keepers that a hive is without a queen for some time, and that, with their best efforts, they do not succeed in introducing a new queen, as the bees will kill every queen liberated among them, and destroy every queen cell given them to hatch. The reason for such conduct is generally that the bees are all old—too old for nurses and for housework—feel no necessity for a queen, and will not tolerate one among them.

Give to such a colony 2 or 3 combs with hatching brood and all the adhering young bees, from some strong colony or colonies, when a queen will be accepted without any trouble, and the colony will soon be in a normal condition again.

Cincinnati, Ohio.

For the American Bee Journal.

Honey Dew Again, Etc.

WM. MAXWELL.

Bees are doing poorly in this vicinity, the loss by starvation and spring dwindling being heavy; what few came through did pretty well, while the fruit bloom lasted, but now there is a scarcity of pasturage.

I want to call attention thus early to the "Honey Dew" subject, and I have made the offer to go 500 miles and pay $10 to any individual who will show me 5 drops of liquid honey dew, free from any deception; provided he will pay my traveling expenses in case he fails to show it.

Now I want it particularly noted that I do not deny that there may be often seen a glistening substance on hickory, and perhaps some other kind of leaves, that may be tasted by applying the tongue; but it is never found in a liquid form. I also do not deny that some kinds of trees or plants may exude some saccharine from the glands of their leaves, but never in quantity to be collected by bees, or produce the tremendous amount of "dew" as seen by my Missouri friend that "fairly dripped from the leaves," or my Texas friend, where it was so "heavy as to kill the trees." I think that all such accounts, together with that remarkable phenomenon of the bees piling up in one of the counties of Missouri to such a degree that the people had to haul straw and burn them up, and published as an appendix to "Baron Munchausen."

I am aware that people, like myself, have been educated to believe in the existence of "honey dew," but for the last 15 years I have made the standing request of my neighbors to send for me whenever they saw any of it; but I have never been sent for.

Edgerton, Kan.

For the American Bee Journal.

Spring Feeding and Management.

H. L. JEFFREY.

I have looked over about 250 colonies of bees within a circuit of 15 miles and inquired about the wintering of as many more. Those that were wintered on the summer stands have done well. The first pollen gathered was on Feb. 20 from skunk cabbage and some tag alder; they worked 3 or 4 days, then we had a frost that killed off all the pollen-yielding plants that had started so early on account of the mildness of the winter. The first honey gathered was from maple, and for 2 or 3 days they stored honey very abundantly, then we had 3 or 4 cloudy days, and honey weather came again, lasting a few days, then windy and rainy weather prevented much flying till the hard maples bloomed, which gave an uncommon yield. About May 1, cherry trees bloomed exceedingly full, which for 2 or 3 days kept the bees very busy, and wore out most of the old ones. On May 6, apple trees began to bloom, lasting about 12 days, furnishing the largest yield, in this locality, known in the past 12 years, and a good many box hives had honey stored in surplus boxes (these colonies always showed a mixture of Italian blood to a greater or less degree;

where there was any signs of purity in the black bees, there was a noticeable lightness of stores).

One colony of pure Italians (in Newtown, Conn.) gave a surplus of 25 lbs. from apple bloom; they are dark colored; they had 12 Quinby frames in the hive; 8 of them were quite full of brood. The surplus was taken away May 22; on May 6 they had 9 frames and capped queen cells, making preparations to swarm, which was ended by giving more combs and surplus room.

The Italians invariably doubled the blacks for strength of bees and brood, wintering better and storing double the amount of honey and pollen. About $\frac{1}{3}$ of the bees in box hives have died out, either from starvation, worms, old queens or being robbed. Of 2 colonies that I tried to winter on candy, without either honey, bee-bread or syrup, one died about the middle of January, the other one I tucked up tight, giving no ventilation or escape for moisture except the entrance, and it came out well. The other had slight ventilation at the top, through burlaps, but starved with a 5-lb. candy slab on the top of the frames. The candy was made by heating honey as hot as possible, then stirring in all the coffee A sugar that could be put in, and worked to a stiff dough with wheat flour, pressing it into a frame, and put on top of the frames. The candy stimulated breeding exceedingly, and furnished strong, healthy workers. I used it on other hives, and feel confident that it has no equal either for feeding or brood stimulation.

Woodbury, Conn., May 24, 1880.

For the American Bee Journal.

The Wintering of Bees in Missouri.

BY "ALSIKE."

It has been a long time since I penned an article for the BEE JOURNAL, but I am now induced to do so from the singularity of the past winter's results to bees in this section, where wintering on summer stands is generally practiced.

Bee-keeping is not a specialty of mine, yet as an adjunct to orchards, grain, grass, etc., I find it sufficiently profitable and interesting to continue with about 100 colonies, more or less, after the "don't fuss or muss" plan. I still use such movable comb hives as I commenced with some years ago, with good results. Those around me have become accustomed to them, and can, from past experience, manage them without much help from me.

On overhauling my hives, this spring, I found 2 played out entirely, but all the others, about 100 in number, were in good condition. Last season was a poor one here; we had only linden bloom to rely on for honey. Late in November I weighed all my colonies, and marked the net aggregate weight of comb, bees and honey on each hive; those deficient in weight were duly supplied with boxes of nice, sealed linden honey to make up the deficiency, and were otherwise well cared for. The others being likewise cared for were left to themselves, and, as above stated, got through with a loss of 2 per cent.

Reports from different places in my county and immediate neighborhood come to me that, from a few colonies up to 100 or more, the loss has been unprecedented—50, 60, and even a greater per cent.—doubtless many having died from starvation. A friend, within 6 miles of my place, with 100 strong colonies last fall, reported before the close of February 50 dead, others perishing, and many have since succumbed. He reports the hives with plenty of honey, combs clean, and no disease discernable, yet the bees were dead in quantity on the bottom board. He, however, noticed this fact, that the cells in many instances were filled with a thin, bitter kind of honey, and mostly unsealed. He is using hives similar to mine, and his management has been much the same. Heretofore, like myself, he had excellent success. The past winter was exceedingly mild for this latitude.

I can but wish you great prosperity and the increased support that your course so richly merits.

Lafayette Co., Mo., May 10, 1880.

From the Prairie Farmer.

Pasturage or Forage for Bees.

MRS. L. HARRISON.

To every owner of an apiary the most important question is good pasture or forage for his bees, for therein rests all his hopes for profit. In the outset, I shall take the ground that it will not pay to raise any crop for honey alone.

First in rank as a honey-producing plant, both for quantity and quality, in this latitude, is white or Dutch clover, and upon dry or sandy soils, or soils of a sandy loam, sown with red clover and red top, it makes a quality of hay relished by stock, and of unsurpassed excellence; and those bee-keepers who may happen to own low, wet fields, or fields with a damp, heavy soil may well sow Alsike or Swedish clover, as it makes excellent hay, and the blossom is rich in nectar; but if your land is

high, dry and gravelly, save your money and your seed. Like white clover, Alsike blooms all through June, and in most seasons through July. Both of these clovers should be sown early in the spring with about 6 lbs. of seed per acre.

Those who may own rough, broken or waste land, may well try a little sweet clover (*Melilotus Alba*); this plant yields a delicious honey; it is a biennial, does not bloom the first year, and at the close of the second year dies, root and branch. Some object to this plant, claiming that if it becomes fairly established it is a pernicious weed; but, as it dies the second year, root and branch, it is easily gotten rid of if not allowed to seed, and its decaying roots and branches are a benefit to any soil; and as an ornament to roadsides it is superior to dog fennel or ragweed. Buckwheat, the very name, is suggestive of honey; this cereal, upon fair soil, may be safely calculated upon to yield 15 bushels of seed per acre, and to the owners of 50 colonies it is worth on the average $15 per acre more; there is occasionally a season when buckwheat does not produce honey, but it is very rare. Sow, the last of June, ½ bushel per acre, if the soil is rich; if the soil is poor, ¾ of a bushel.

TREES.—First in rank as a honey-producing tree, stands the Linden or basswood (*Silex Americana*), of rapid growth, luxuriant foliage, tall, spreading, majestic; it is truly a beautiful tree for shade, is a passable fuel, a fair timber for many purposes, and for cutting into veneers for fruit baskets and berry boxes is second to none, and, although there is occasionally a season in which the blossoms secrete little or no honey, the yield is generally good, and sometimes immense: to every bee-keeper who expects to continue in the business I would say, "plant the Linden."

The tulip tree (*Liriodendron tulipifera*) often called poplar or whitewood, is a good honey-producer; the flowers expand in succession, thus affording more time to the bees in which to harvest the nectar; the tree grows to a large size, and for many purposes makes a superior quality of lumber; plant the tulip tree.

I need hardly remind apiarists of the apple (that king of northern fruits), the blossoms of which yield a most delicious honey, or the horticulturists of the benefit derived by the cross fertilization of the flowers by the busy bee, but will take for granted that every bee-keeper, who has the facilities for so doing, will plant an apple orchard.

To the lovers of that delicious fruit, the toothsome raspberry, I will say that its blossoms yield very freely of honey, of a quality surpassed by none, and the bees, as a rule, will even forsake white clover for the bloom of the raspberry, while I have never known of a season in which it failed to secrete honey.

I have only attempted to give a list of some of the more important honey-producing plants, and those which have a double value; for while I do not believe it will pay to raise any crop, tree or plant, for honey alone, there are many things, which by saving its harvest of nectar, may be raised with pleasure and profit.

Peoria, Ill.

For the American Bee Journal.

Fertilization in Confinement—Swarm Catcher, Etc.

M. S. SNOW.

I have tried the plan for fertilizing queens described by Mr. A. J. Hintz, on page 233 of the JOURNAL for May. I made a frame 10 feet square, covered with mosquito bar. I caught the drones and put them in, and then introduced the queen, but they would cling to the mosquito bar and try to get out. I experimented with it until I was satisfied that it would not work, and then gave it up. His plan of putting the nucleus hive in the fertilizing cage and feeding may overcome this difficulty. I will give it another trial, and report through the BEE JOURNAL.

My Swarm Catcher.

I think I made my first swarm-catcher in 1860, and in 1861 I had 10 in use, having then 200 colonies at Forestville, N. Y., the home of my brother. The size I make is 3 feet high, 3 feet long, and 2½ feet wide. Tack the mosquito bar on to the frame, which I make of lath. Any light frame, even if made of wire, will answer for any hive or box, as there is no adjusting; simply putting it over the hive. Let it remain until they quiet down, which will be about the same length of time as though they had swarmed out into the air.

Any one can make all they wish without fear of some one claiming this invention, for I believe I stand ahead. I never heard of such a thing, nor saw an illustration of one of any make until since the cut of mine came out. If on the watch, you have ample time—as the time required is nearly long enough—to pick it up and set it over. If it does not set close to the ground, put something around it, but on grass there is no danger, as their course is upward.

The queen may not come out until half the swarm has. Place the hive as you wish it to stand (that is, the empty one), turn the catcher over, dip out a few and put them down by the hive, drum on hive a little and as soon as they give the call or begin to go in take the catcher by the handles and give it a quick jerk in front, so that they will fall in front, and they will gather in. The ones that get the start before you place it over will return to the catcher and be as anxious to get in as the ones inside are to get out. The material for one will not exceed 50c. Now it does seem as though this is enough; make an experiment and report in the BEE JOURNAL.

Osakis, Minn.

From the Planters' Journal.

How to Italianize Black Bees.

REV. J. W. M'NIEL.

Whenever any one desires to Italianize an apiary it is necessary to start right. The important matter first is to be certain to procure a pure Italian queen. Let what are called dollar queens alone, they are, at best, poor property according to my experience. Deal directly with a responsible party, and purchase a pure tested queen. When obtained and introduced into a hive, of which I will hereafter give my plan, then the work of raising queens from her may soon be commenced. The frame hive of some make is necessary in this work. Of whatever kind used, be certain to have all the frames of the same size; this will obviate a great deal of trouble and loss of time, not only in the work of raising queens, but also in the general management of bees. After all the eggs of the black queen in the hive into which the Italian queen has been introduced, have hatched and been capped in their cells, then the work of raising queens may be commenced, provided the Italian queen has been laying. This being sure, my plan is to remove a hive from its stand, placing an empty one in its stead, and in this place a frame of comb, with eggs in it from the Italian queen, then return to the hive, having been removed from its old stand, and blow a strong draft of smoke into it; many of the bees will return to their old stand, and those, together with others out foraging, will enter this, making a nucleus—if not strong, still continue to agitate the bees of the removed hive until the nucleus is a good sized colony.

This nucleus will in a few days commence queen cells, making from 3 to 15. These must be closely watched, and from the day the first is capped allow only 6 or 7 days to pass before all the queen cells except one are carefully cut out, and place one in each of the queenless nuclei. These nuclei may have been previously prepared by destroying a queen and dividing up the hive. Be certain that the nuclei have neither queens or queen cells. In these introduce the queen cells into the combs in about the same position as those made by the bees. These queen cells will soon hatch, and after the queens are fertilized they can be introduced into hives of the common bee.

It may be well to remark that the safest plan I have tried is to cage the young queens, destroy the black queens into whose hives it is desired to introduce the young queens. Suspend the cages about the center of the hive, having placed a small piece of comb in the bottom with honey in the cells, upon which the queens can feed themselves. After the cages remain there about 48 hours, take them out and cork them with a small piece of thin honey comb, and suspend them again in the hives. The bees of the hives will uncage the queens by removing the comb from the mouth of the cages. After suspending the cages thus, the second time, do not disturb the hives in less than 3 or 4 days; after which the hives may be opened, and, if the queens are alive, they can soon be found among the black bees, for the reason the Italian queens are of a bright golden color. By the above plan, any one may in a short time displace all their black queens and place in their stead the Italian.

For the American Bee Journal.

Systematic Apiculture.

SILAS M. LOCKE.

This subject may be an old one; but it is of vast importance. When we consider that the bulk of our honey is gathered in about six weeks, we must at once realize the necessity of system.

System is a secret of success; and the more fully we comprehend it as such, and encourage its practice, the greater will be our success. This applies not only to apiculture but to all other kinds of business.

Show us a man who is prompt and systematic (other things being equal) and I will show you one who is generally successful. The result of my investigation is that in no department of business is there so great a lack of system as in apiculture. Many bee-keepers fail to comprehend the full value of

the old adage: "Never put off until to-morrow what can be done to-day."

The actual time spent in gathering the bulk of our honey crop is of so short duration, leaving so many months to prepare, that we have no valid reason for being behind with our season's work.

My experience in managing an apiary for a man in this State (N. Y.) under his supervision, will give a good illustration of the point. I took charge of it in March. I at once urged the necessity of being in readiness for our season's work as soon as possible, but he answered: "There is no need of hurry: there is plenty of time." We had 65 colonies, which had been neglected; the hives were filled with drone comb, crossed combs, etc. We had a work shop to saw out the material for 75 new hives, 3,000 boxes, 1,000 cases, 500 frames and nail them together; we had to move the bees some distance by hand to our new yard, which had been used the year before for a corn field, and it had to be fixed up and leveled for the hives. We transferred all the bees to the new hives, took apart and made over 50 old hives, and clipped nearly all the queen's wings (black queens). Our supplies were ordered late, and our foundation was not all at hand on July 4. When swarming was at its height, I was obliged to be nailing up boxes and cases, putting in starters, etc., when I should have been in the bee-yard. I might say much more, but any reasonable person can predict the result of such a season's work. That fall we had 119 colonies, if I remember right, and 1,000 lbs. of extracted and about 400 lbs. of comb honey.

I relate this only to substantiate the statement that a large majority of bee-keepers are troubled with the same fault. That season's work taught me a lesson which I never shall forget, as regards the ordering of supplies.

Already white clover is opening its fragrant petals, filling the air with sweet fragrance, and invites the willing bees to its vast storehouse of the nectar. And yet orders for hives, boxes, etc., come pouring in to the factories and supply dealers, each bee-keeper wanting his goods at once; goods which should have been ordered and made up before the bees had left their winter quarters. A large corps of hands are working as hard as men can work to fill the orders and yet too much blame is heaped on the heads of all supply dealers which might be obviated by a little system and forethought on the part of bee-keepers.

Such men as Capt. Hetherington, Julius Hoffman, G. M. Doolittle and others, have learned the importance and value of system, and their apiaries and bank accounts attest its beneficial results. Show me a man who lays on his oars (so to speak) and neglects to order his supplies and put in shape his hives and surplus arrangements and prepare for his honey harvest until his swarms hang upon the tree tops, and I will show you the man who finds the most fault. How much time could then be devoted to the individual wants of our little pets and industrious workers, and to building up strong, active colonies, to gather from nature's vast storehouse the nectar often wasted on the air, the gathering and saving of which has become such a great industry?

I will close by repeating the words: "System is a secret of success." Let us adopt it as our watchword.

Canajoharie, N. Y., June 8, 1880.

For the American Bee Journal.

Resolutions of the Utica Convention.

WM. E. CLARK.

I have read several articles written by different persons and published in the BEE JOURNAL reflecting upon the action of the Utica Convention of the "Northeastern Bee-Keepers' Association," where resolutions were offered by Mr. Betsinger, and passed, relative to establishing a co-operative bee paper, and censuring Mr. Newman for some supposed mismanagement of his paper.

I was a member of that body, and did all I could to prevent the Convention from passing those resolutions. I believed then, as do now, that any action was uncalled for and not for the best interest of bee-keeping. Mr. Newman's paper is his own private property; he has a right to publish such as he pleases; he is responsible for it and not N. N. Betsinger nor G. W. House! I suppose he is publishing it to make money, the same as all of us are doing in different trades and professions! I would ask, what right has any one to dictate to Mr. Newman and say he must publish such and such things, or to Mr. Betsinger that he must make his "tin-points" out of such and such material? I believe that, should the bee-keeping public ever make up their minds that Mr. Newman's paper is of no use to them, they will request him to discontinue sending it to them, and to Mr. Betsinger they will say we have no use for your "tin-points!" all resolutions of bee conventions to the contrary notwithstanding.

Human nature crops out in bee-men, as well as in others; they take just such papers as they desire, and buy such bee supplies as they want, and of those with whom they can do the best. Little do they care what other business they may be engaged in, not even stopping to inquire whether they publish a bee book or not! We all buy our supplies of those from whom we can buy the cheapest and most conveniently, and that is right.

Now, I ask, who wants a co-operative bee paper? Mr. Doolittle says he does —$6 worth; that is $6 more than I will give for one. I do not feel like getting some enthusiast to loose it all in any such investment; for whoever tries it will most certainly come out minus his investment in any such stock! I do not think any one will be willing to start one by subscription, even for $6 each.

I do not say that the advocates of these resolutions were not honest in offering them; but I do say they misjudged concerning the necessity for passing them in the manner they did!

But let us throw the mantle of charity over each other's mistakes and faults. Christ at one time said: "Woman, where are thine accusers? Does no one condemn thee? Neither do I; go and sin no more." Just before this, Christ said to those that were so anxious to have judgment upon the erring woman, "Let him that is without sin cast the first stone." I would say likewise to those that seem so anxious to condemn and say hard things. Exercise charity toward all and hatred toward none.

I believe, Mr. Editor, with you, that the Convention made a mistake in passing any such resolutions, and I think, perhaps, they have learned wisdom, and will never repeat such a mistake.

Oriskany, N. Y., June 1, 1880.

[Long and earnestly have we labored for peace, unity and concord among the fraternity; and no one can deprecate more than we, anything calculated to produce discord and strife. Some, more impetuous than others, just before attending conventions, have written to us that they intended to offer resolutions diametrically opposed to those passed at Utica, and denouncing that Convention for its hasty and unjust censure. We have immediately written to such persons not to do so—that such would but add fuel to a fire already "dying out"—"that grevious words stir up anger"—that many of the members of the Northeastern Association heartily disapproved of the hasty steps taken, and that, if let alone, the matter would soon right itself. Therefore, as our worthy correspondent, Mr. Clark, suggests: "Let us exercise charity for all, and have malice for none." Being conscious of having merited none of the abuse contained in the "*Resolves*," we are not troubled concerning it, and to apiarists everywhere would say: "Let brotherly love prevail, and every moral and social virtue cement us" into one common brotherhood.—ED.]

From the Bee-Keepers' Exchange.

Feeding Back for Comb Honey.

J. H. NELLIS.

Various opinions exist as to the usefulness of the book entitled "Blessed Bees." When the book appeared we spoke highly of its value, recommending our readers to procure and study it. Of course we knew that the book was an instructive novel, and supposed every reader would discover that fact. Some of our contemporaries denounced the book as dangerous and unsafe in the hands of beginners, if not with more experienced persons. We are now of the opinion that no book devoted to bee culture, in the English language, is so valuable in developing modern bee culture and settling some of the perplexing difficulties that have beset us for a long time. A visit with friend E. J. Oatman, previous to seeing "Blessed Bees," developed the fact that he was practicing a method similar to that advocated in that book, so that, whatever originality is due to the author of it, we must give Mr. Oatman great credit for putting in practice a method that, fully developed, will revolutionize modern bee culture.

Between Mr. O.'s plan and "Blessed Bees," we laid out a scheme that worked admirably during the season of 1879. Sometime ago we promised our readers a full description of the method in time for this season's operations, so here it is: We will suppose that the honey season is nearly upon us, and our stock of bees consists of 75 good colonies. We desire large yield of honey and small increase of bees. We fill frames with comb foundation, which we insert into our best hives, to have it drawn out; but as we do not want pollen or eggs deposited, we will have to

be careful not to leave it in the hives too long. Experience will teach how to manage it. If the queens are *very* prolific we must not put the foundation between the brood, otherwise this is the best place. The time the foundation should remain in the hive is from 12 to 60 hours, depending upon the strength of the colony and the flow of honey. This foundation after being lengthened out by the bees, is cut into blocks that entirely fill the honey boxes. These we fasten into boxes with our wax and rosin mixture. Undoubtedly most of you prefer to get all the honey stored directly into boxes that you can, therefore we give the above directions.

The boxes are now ready, and should be put on all strong colonies, just as the honey flow developes, and before the bees get discontented or idle, Six or eight good colonies are reserved for extracting and for the purpose of drawing out all the foundation needed in the boxes used in the balance of the apiary. If your colonies with boxes go briskly to work in them, and show no disposition to swarm, your object is attained, and all you have to do is to see that they have plenty to do, *i. e.*, put on boxes filled with lengthened-out foundation as often as you can find a completed box. The plan of leaving on an entire set till all the boxes are finished, is wasteful of time and honey, and sometimes breeds discontentment among the bees. But if your bees get the swarming fever and you find that valuable time is squandered, then proceed as follows: We have often, with good effect, hived a swarm till evening, when the queen cells were cut off and the swarm put back. This sometimes proves effectual. If the swarm comes out the second time, we remove all the boxes, add foundation or sheets of comb and proceed to extract them regularly. In fact, we are not sure but that a thorough system of extracting *all the colonies*, is conducive of greater results and less trouble than the effort to get part of them to work in the boxes, with loss of time caused by discontent. Our extracted honey is put in tin vessels and stored in a warm, dry place.

Proceed with the above plan until the flow of white honey is about ended. Having provided suitable feeders, select as many industrious colonies as can store the extracted honey into boxes. The feeders we use hold about 2 quarts each, and we have two styles, suitable either to put on top or to screw fast to the side of the hive or to the board that confines the bees.

All the frames except those containing brood should be removed, so that the extracted honey cannot be stored in the body of the hive. The swarming fever has its season, and at this time the bees have no further inclination to swarm, but seem to store with zeal, as if they realized that the close of the harvest was nigh. Our boxes being filled with lengthened-out foundation, we put on as many as the bees can occupy. A quantity of our extracted honey is put in a tin vessel, this vessel being set into another containing water, and the honey heated to about 110° Fahrenheit, and water enough added to make it run thin. Very much of the success of the feeding in depends upon getting honey of proper consistency; if it is too thick, the bees will carry it very slowly. We imagine that this is the cause of many a failure to feed back honey to advantage. When the honey is too thick, the bees cannot handle it without waste both of material and time. If too thin, the honey will have to remain uncapped too long. The danger generally lies on the side of being too thick. For a day or two the bees will take the honey very rapidly, and it should be bountifully supplied. We usually feed at evening, but see no objection to feeding at any other time. If bees are getting some honey from the fields it is best to feed only at evening.

If the honey is of proper consistency, some of it will be capped in 4 to 6 days, and the box honey will soon "shell out." Of course the quality of the comb honey will depend upon how neatly the extracted honey has been kept. If done "decently and in order," the combs will be "beautiful to behold." To keep the operation moving briskly, all boxes should be removed as soon as complete.d As the dark honey harvest approaches the boxes with white honey should be consolidated on the best working colonies, and empty boxes put on those so relieved.

At the close of the buckwheat harvest, if the weather is not too cool, the feeding back can be continued. The plans should be so laid that the honey is all stored before the cool weather of fall, as then the operation will be tedious and unprofitable.

We expect to receive criticims, doubts and denunciations, but, as we know the plan above described will work, we do not hesitate to give it. During the summer of 1879 we fed in about 4,000 lbs. to 40 colonies, and the shrinkage did not exceed the weight of the unglassed sections that held it. If no foundation had been used we think that the shrinkage would have been far greater. If the feeding back is begun just as the flow of honey from the fields ceases, and the

brood nest is kept small, the honey *must go into the boxes;* and as the bees have no comb to build, how can they waste it? We have noticed that when the honey was too thick more wax was secreted and the bees also seem helpless.

For the American Bee Journal.

Ants Troublesome in the Apiary.

W. W. BURNET.

Prof. Cook in his excellent Manual says: "Ants cluster about the hives in spring for warmth, and seldom, if ever, I think, do any harm. Should the apiarist feel nervous he can very readily brush them away, or destroy them by using any of the fly poisons which are kept in the market. * * One year I tried Paris green with perfect success."

Now it so happens that my hives are on a sandy hill-side, which this year is teeming with black ants about ⅜ of an inch long. This spring a neighbor kindly gave me a weak swarm, and I placed it in a hive, gave it brood, and it seemed to be doing well, until about 2 weeks ago, when I noticed that the air was full of bees. I returned them as soon as they clustered, but out they came again. I clipped the queen's wing, caged her, and thought I had them sure; but to my dismay out they came again, and endeavored to force their way into other hives, until I was minus a swarm. I noticed the ants very thick around and in the hive; but as I saw no bees injured, and Prof. Cook said they "seldom, if ever," etc., the "apiarist" didn't "feel nervous." A week later I removed a queen to make room for one I was expecting to receive, and at noon I put her in a new hive with a couple of frames of brood and plenty of bees, and that evening when I went to see how they got along, I found them in bad shape; the ants had killed the bees with the exception of about a dozen workers and the queen, and had pulled the larvæ out till the bottom of the hive was white; then the "apiarist felt nervous," I tell you. I put the queen back into the hive I took her from.

I had noticed that the ants would not bother my full hives, which were boiling over with bees, so I determined to remove another queen to make room for my new one, and put the hive on stilts in pans of water (I have my hives on the ground, *a la* Cook). I made a nucleus one evening, filled the pans, and next morning went to work with the air of an apiarist who had triumphed over difficulties; but "the best laid plans of mice and men gang aft agley." When I returned the water had evaporated; the hive was black with ants, and the queen, bees and larvæ were numbered with the things that were. To say the "apiarist was nervous" but feebly expresses his feelings; he was desperate! I procured strychnine, dissolved enough to kill 40 men, mixed it with syrup, fed it to them in divers places where the bees could not reach it, and the ants got fat on it; the only ones hurt were about a dozen in each pan, which, heedless, fell in and were drowned. I fed them Paris green, and they ate it until I had to stop buying, for I am a poor man and have a family to provide for. I dug over their nests, time and again, put slacked lime on them, scattered wood ashes on them, poured coal oil in the holes, set the hives off the ground with wool tied around the legs of the stands, but all to no purpose.

I found that the queenless colony was not disposed to take kindly to my new queen, so I procured a large deep pan and put the hive on blocks, filled the pan with water, put a lot of frames of hatching brood in, introduced the queen, and it worked all right for a day or so. Yesterday I went away, and on my return went to the hive to see my new queen, and found her dying, her legs bitten off, and her bees dead. The ants had drowned in the pan, till it seemed there were thousands floating on the water, and the balance of them marched over the dead bodies "onward and upward." The "apiarist now feels despondent," and wishes some of his brother bee-keepers would help him out of his troubles by telling him how to destroy the nests of these ants.

I have tried hot water by the boiler full. It may be that my disaster will prove a "light along the shore" to some other apiarist who wishes to raise a few queens.

Lagonda, Clarke Co., O.

[Many of the usual plans for ridding the apiary from the presence of ants appear to have been pretty thoroughly tested by Mr. Burnet. He has used strychnine, kerosene, wood ashes, Paris green, lime, hot water, etc.

Salt scattered on their nests, or powdered borax, which, after a rain, makes a soapy mixture, will usually cause them to emigrate "bag and baggage." Tansy leaves, catnip, copperas, black walnut, and tobacco smoke are all distasteful to them, and they will usually decamp at once where such are used.

It is claimed by some persons that they cannot cross a wide chalk mark, and to stand the hive (or its legs, if it has any) on a board and make a chalk mark ½ inch wide all around will keep them out of it. Of course it must be renewed after a rain. But this is not an infallible remedy; they will sometimes ignore its existence entirely, and cross and re-cross at pleasure.

To exterminate them some drive a crowbar deep down through their nest, causing a trap into which thousands upon thousands drop and die.

A jar or tin can, with holes punched through the tin cover with a small awl, half filled with honey mixed with water, and then placed near the ants' nest, or burying it level with the ground, will destroy them in great quantities.

The large black ants are extraordinarily fond of honey, and will sometimes carry off large quantities of it in a short time.

Mr. A. I. Root mentions a case—his hives were troubled with ants, and his bees, after being annoyed much with their presence, took them up, one at a time, and flew away from the apiary and dropped them to the earth so far away that they could not again return.

The pungent odor given off by the ants is very obnoxious to the bees, and if they cannot expel the intruders they will swarm out, and no amount of "returning" them to the hive will cause them to remain.

It may be well to try some more of these methods of defense before becoming totally "despondent" over the trouble. The case is an unusually severe one and requires severe measures. Ordinarily we would not counsel their extermination, but when it becomes a question of which shall be exterminated—the bees or ants—we must say, save the bees at all hazards.

Sulphuret of lime is said to be the most potent remedy for their expulsion, and a more recent letter from Mr. Burnet states that he has used it with full success.—Ed.]

For the American Bee Journal.

The Manufacture of Glucose.

M. M. BALDRIDGE.

So much has been said respecting glucose by those who know very little about it, that I have concluded to send you the following article from the Chicago *Tribune* for republication, so that both sides of the question may be heard. The author is a stranger to me, but it is my impression that he knows what he is writing about. It seems that glucose, when made properly, is not such a very unhealthy product after all. The *Tribune* says:

"Glucose is the Latin name for all saccharine solutions contained in the cereals, in fruits, peas, beans, etc. It differs from sucrose (cane-sugar) in that it forms no crystals, and is identical with the sugar formed on dried fruits, particularly raisins, from which the sugar thus formed derives its name of grape sugar.

"Kirchoff, a chemist at St. Petersburg, Russia, was the first to convert starch into sugar. This was in 1811. It created at that time, when the traffic of colonial sugars was interdicted by Napoleon, such a sensation that several factories were at once erected in France and Germany. The excitement, however, soon subsided after it was found that the sugar was much inferior in sweetness and taste to cane sugar, and the invention of the extraction of pure sugar from beet root, which soon followed, thereafter put a stop to the whole undertaking.

"Beet-sugar, however, did not yield a palatable syrup. All the experiments failed to improve it into an article for table use, and this brought to life again the question of the feasibility of manipulating the starch into an uncrystallizable syrup. Still it was not before 1832 that the eminent practical chemist Payen commenced to improve upon the first rude process of the conversion of starch into sugar and syrup. He was followed by Musculus and Dubrunfault, and these three men may be regarded as the founders of this enormous industry. The researches which they made were followed by the most astounding success. They produced a syrup in color and taste even superior to cane syrup. It did not possess the powerful sweetness of the latter, but it had the great advantage of being not liable to crystallize.

"This result gave at once a new life to the abandoned enterprise. Factory followed factory throughout France and Germany. Better and improved ma-

chinery and methods were discovered continually. The sugar, at first a brown, bitterish product, became a pure, white and sweet article, and was found to contain all the elements for the amelioration of beer, wine and vinegar. It was also found that the saccharine principle could be checked, and the syrup turned into a gummy substance, equal in its elements to the best gum-arabic.

"In 1838 France and Germany counted 19 factories in full operation, and with a steadily increasing demand. The erection of new factories and improved methods kept on unabated, and in 1867, at the time of the Paris Exposition, there were working on the continent of Europe 67 glucose factories. In 1878 there was an increase of 15 more establishments, which made a total of 84 factories. If we consider that the great bulk of the enormous amount turned out daily is grape sugar and gummy glucose, we may make some estimate of the great traffic in Europe of these two articles. The demand for table syrups in Europe is very light in comparison with that in this country. Seven-eighths of this production is there used for manufacturing purposes. * * * *

"In the fall of 1865, when residing in New York City, I received a letter from one of my friends in France, a manufacturer of glucose, by which he advised me of having shipped a keg of his white, dense glucose, with a request to compare his product with the best article made in this country. He wished to know what progress the business had made in the United States. The sample glucose which arrived was an excellent article, and at once I took steps to investigate the matter.

"To my utter surprise, no glucose could be found for comparison. The article was actually so little known that the wholesale confectioners declared they had never heard even of the name. I then commenced to work over some of the glucose into a sweet syrup, and introduced a sample of it to one of the heavy sugar brokers. When I told him that the main base of the syrup was starch, and it could be produced pound for pound, he refused to believe me, but I partly convinced him by proving the fact from some scientific works, and by letters from European manufacturers. A few days after Wall street was in an excitement. Corn syrup was introduced, and its career opened in America, where now many factories are successfully operated, of immense capacities."

The above article gives some points of historic value, and we cheerfully give place to it, as Mr. Baldridge requests. But we can never look upon the adulterations which are made with glucose with anything but feelings of disgust.

The author of the above is in error as to the origin of the word glucose; it is not Latin, as he says, but it is a Greek word, and means "sweet." He also is mistaken regarding the origin of the name grape sugar. In some instances, therefore, he evidently does NOT know what he is talking about!

The N. Y. *Tribune* has the following excellent article relative to the multitudinous adulterations made with glucose:

"It is known that many mills are kept busy grinding minerals and earth for this adulteration. It is fearful to think of the clays and starches, glucose and pigments, that are swallowed by innocent infancy, and of the doctors and undertakers who will share the profits with the candy-makers.

"Of these adulterants, glucose, which is generally assumed to be innocent in a sanitary point of view, is becoming one of the most unmitigated and successful swindles of the age. With corn at 20 or 30 cents per bushel, it is almost as cheap as clay, and a large per centage of adulteration possible makes it the favorite and most profitable means of perpetrating fraud in sugars and molasses. It is used by sugar refiners, by manufacturers of syrups, by makers of confectionery, *for mixing with honey*, in making sweet wines, and in all the products into which cane sugar enters.

"Unfortunately the extent of this manufacture may not be fully revealed by the census. Those who will cheat will also lie. Could the facts be divulged, the community would be astonished at the magnitude of its manufacture. Were it offered as glucose to the ultimate consumers, at its real worth, there would be no objection—and at the same time little sale. The manufacturer shares with the maker of sugar products the gains of this nefarious business, while the consumer unwittingly pays for a substance of trifling value the price of real sugar. New York, Buffalo, Chicago and St. Louis, and possibly many other places are centers of this manufacture, which is kept as secret as possible, like the manufacture of illicit spirits, which plunders a vigilant and powerful government only, while this trade oppresses millions of poor and unsuspecting people. Swindles like this should be by law a felony."

Conventions.

Read before Livingston Co., Mich., Convention.

Chaff Packing for Wintering Bees.

EDWARD GREENAWAY.

The wintering of bees is one of the most important factors in the management of the apiary. The loss occasioned by the long, and sometimes very severe winters in this latitude, is greater than all the other losses with which we, as bee-keepers, have to contend.

Hence, we should study this subject, and adopt some plan which will, at least, reduce this loss to a minimum.

In my opinion, there are only 2 modes of wintering which are really worthy of our attention, viz.: Cellar wintering and packing in chaff on the summer stands. All the other methods I consider hazardous, and experiments which are not yet fully demonstrated.

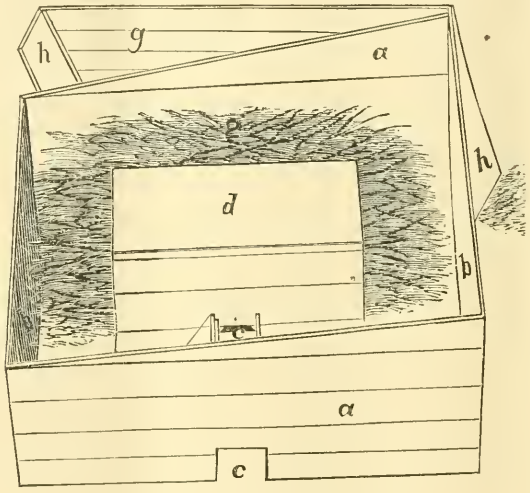
Some old-style bee-keepers say that they had good luck with bees for a number of years, till a poor honey season came, followed by a hard winter, killing all their bees. They then gave up the business in disgust, saying that their "luck" was gone. Would the farmer who lost his stock for want of proper care, food and protection against the cold winters, ascribe his loss to "luck?" Of course not! Why should not we adopt the rule that "anything that is worth doing at all is worth doing well," and apply it to bee-keeping as well as to stock-growing, or any other business for profit or pleasure?

I prefer chaff-packing to cellar wintering; perhaps, because in my 3 years' experience with wintering bees I have not lost a colony. I do not ascribe my success, however, to "luck" but to the "chaff packing" and "proper management in the fall."

It may be of interest here to give, somewhat in detail, my manner of preparing bees for winter:

First, Be sure that all colonies are kept breeding until Oct. 1, which they will usually do, unless there is a scarcity of honey in the flowers; in which case, feed them to stimulate breeding; by so doing you have young bees, which will stand the winter much better than old bees.

Second, About Oct. I reduce the number of frames in the hive to 5 or 6, according to the size of the colony. I regard it as very important "to use no more frames than the bees can cover."



Prof. Cook's Winter Packing Box.

Third, Be sure that each colony has at least 20 lbs. of good, sealed honey (coffee A sugar will do as well).

Fourth, Cut with a tin tube a ¾-inch hole through each comb for winter passages, and fill the vacant space on each side of the frames with chaff-cushions, protected from the bees by white wire cloth fastened to a frame and fitting in the hive like a division board, (the hive is thus contracted to the size of 5 or 6 frames), place a chaff-cushion over the frames and contract the entrance to 1 inch, and all is ready for the packing boxes. For these procure common

"stock" lumber, at a cost of about 50 cents each, and make them from 4 to 6 inches larger on every side than the hive, with a slanting roof that will not leak, and a spout about 4 inches square and 1 foot long, leading from the entrance of hive through the packing box, *a la* Cook (see "Cook's Manual, page 250). Then fill all the space around, above and below the hive with chaff, and we are done with them until the following April.

The advantages of this mode of wintering are, that bees are enabled to fly at any time when the weather will permit, and the combs will never be moldy, whether they are covered by the bees or not.

I also claim advantage over the chaff hive, in that I have a double chaff covering, and that the chaff comes in direct contact with the bees on 3 sides instead of 1, thus more readily absorbing the moisture. I also do not have the extra trouble of manipulating such large and heavy hives in the summer.

Cellar wintering has been practiced successfully by many experienced beekeepers, who have cellars sufficiently dry and properly ventilated; but such conditions many of us have not. The past winter has been so warm and wet that many bees were lost in the cellars in this vicinity.

I will not at this time attempt to give any directions for cellar wintering, but will leave it for some one who has had experience in that direction, and consequently will be more competent than myself to do the subject justice.

Howell, May 1, 1880.

From the Beinen Zeitung.

Discussion on the Caucasian Bee.

AUSTRO-GERMAN CONVENTION.

HERR VOGEL: In commencing, let me give you some incidents in the history of this race of bees. It is surprising that its qualities should have been so long untested, since German apiarists were long ago informed of its existence through men of science.

The famous naturalist, Pallas, traveling in the mountainous regions of the Caucasus, by order of the late Empress, Katharina II., noticed the native bee of that country, and sent a specimen to Berlin, under the name of *apis remipes*, which may now be found in the entomological collection, where I first saw it in the year 1862.

Last year the Councillor-of-State, Dr. Buttlerow, of St. Petersburg, published in the *Bienen Zeitung* a dissertation on the subject of the "Caucasian Bee and its Culture." In this article he says: "The Caucasian bee is a special race, which has many variations in regard to the color of the first segment of the abdomen, and partially like the hybrids of the German and Italian bee found in the neighborhood of Wladikawkas, in the same bright yellow color, which we esteem so much in the Italian bee." This gentleman says that the Caucasian bee produces a good number of queen cells, and also much honey.

I came into possession of the first Caucasian bees in May, 1879, and will now enumerate my observations relative to the subject:

1. Is the Caucasian bee really a special race, as Dr. Buttlerow says in the *Bienen Zeitung* for 1878? Though there is a great variation in the color, I declare this bee to be a special race; first, look at the type of race, and it is not much smaller than other races.

2. Does this bee possess that "extraordinary gentleness" of which Dr. Buttlerow speaks? I could hardly believe it, and I reasoned as follows: Dr. Buttlerow came from St. Petersburg to the Caucasus, and, visiting several beekeepers, became prejudiced in favor of that much-praised bee; but now I believe in it, for I have had the proof of its gentleness in my own apiary. While manipulating this race of bees it is not necessary to apply smoke at all; if I want the bees to move away from a comb, I blow on them to insure success, but there is no reason to get them angry by blowing or striking them, and there is no probability of provoking them to stinging. I will add, that these bees also preserve their amiable disposition in increased temperature, and even in the hot period of fulmination or the changes of meteorological influence. But it is a noted fact the Caucasian bee is very belligerent toward strange or robber bees, and millers and robbers never leave the Caucasian hive except as they are carried out dead.

3. The prolificness of the Caucasian is very great, and also the disposition to rear drones, which shows their tendency to swarm. This is also stated by Dr. Buttlerow, who says that an apiary of 5 colonies in a year has increased to 15.

4. It is not strange to find 100 queen cells in a moderately large colony. As the Caucasian bee is a special race, it does not follow that the queens produced will be weak and inferior because of the great number of cells built. About the natural qualities of the Caucasian bee, I will give them at some future time in the *Bienen Zeitung*.

5. I cannot, of course, state this season whether the Caucasian bees are the

greatest honey gatherers, because I did not receive the first queens till in May; it was the latter part of June before the young bees went out, and the middle of July before they commenced gathering honey, which brought the season too late to determine their qualities. They were always busy gathering when there was anything to be obtained, and this fact leads me to hope they can be relied upon when there are flowers in the fields. It is not possible to determine their value till next year, after having passed a winter, and been tested during a full season's honey flow.

Dr. BUTTLEROW, of St. Petersburg: For the benefit of those who did read my disertation in the *Bienen Zietung*, I will tell how I came to possess the Caucasian bee.

Two years ago I traveled to the Caucasus to spend the season, and there I met the bees and the apiarists, who keep their bees in "Ssapetks." This bee I did not notice particularly by its color, but did so at once by its extraordinary amiability, which was observable to me, having always been accustomed to our cross Russian bees, which we could only manage by a plentiful use of smoke. The Caucasian bees, on the contrary, but rarely require the use of smoke.

I was much astonished when I once saw the destruction of nearly all the queen cells in a colony (and where they existed in a mass) without using any smoke, and that, too, in the evening, while the field bees were at home in the hive. I had to acknowledge the docility of the Caucasian bees as a phenomenal one. This was a strong feature in their favor, and I at once determined to pay further attention to them.

I did not think the Caucasian bees more a race than the Italian or others. We do not find any great difference between the black and yellow bees; but if we look on descent, we must speak about races, and so I think we should also designate the Caucasian bee as a race, if only for the reason that, besides their amiability, they exhibit such an extraordinary propensity for building queen cells and for swarming. In regard to their ability as honey gatherers, I can only say the Caucasian apiarists are very successful; but this is a question which we must determine in the future.

When I became acquainted with the qualities of these bees I purchased 8 queens at once, and placed in the care of a bee-keeper at Moscow, in 1877. Two bee-keepers of Moscow state that the progeny of those queens are of the same amiable disposition I had observed, and in consequence of which I proposed to the Free Imperial Economical Society the importation of this race into Germany and Russia, and received an order to proceed to Caucasus for the shipment of the bees. In the meantime something unexpected transpired. A Caucasian apiarist, of the most common kind, purchased in the spring a number of colonies in the generally used straw hives, or "Ssapetks;" as he found many of them very weak he could do no better than unite them, and, after doing so, sent 24 surplus queens to a friend in St. Petersburg to sell, without having previously informed him. From these queens, taken from weak colonies, and perhaps old, I purchased 12 and sent them to Mr. Vogel, who at once sent 4 to Mr. Gunther at Gispersleberg.

Finally, I made the journey to Wladikawkas, the very home of the progressive Caucasian bee-keeper, and from thence I sent 4 queens to Mr. Vogel and 4 to Mr. Gunther. The bee-keepers from whom I obtained those queens used improved hives with movable frames, and pay more attention to color, etc. They are also said to prefer the black queens to yellow ones.

As before stated, I found the gentleness of this bee to be "phenomenal." I took the queens with my hands, and lifted the bees into the hives. Among 30 colonies from which I had taken away the queens, I only once used some smoke, and then it was really not necessary. Twice I saw bees swarming. Once I placed myself in their midst, and made quick and sudden motions, and I was not stung. On another occasion a swarm clustered on a tree, getting confused: we shook the tree, and I went among the bees while sweating, but was not stung, although we tried in every way to anger them.

I was on the other side of the mountains, in Alsatia, on the coast of the Black Sea, and there I saw some bees which are blacker than the Caucasian, and less amiable, for I was stung once by them while blowing in the entrance to the hive. They are not so pretty as the Caucasian bees. I hope to be able to give further particulars regarding these bees in a short time.

HERR GUNTHER, of Gispersleberg: I have to confirm the remarks of Messrs. Vogel and Buttlerow, as my observations and experience were the same. You may gather these bees in your hands, or on the combs, without being stung. I manipulated and operated with my bees in every manner without the use of smoke, and without being stung or annoyed by them.

Los Angeles, Cal., Convention.

Met May 15 at Los Angeles, Cal., Pres't J. E. Pleasants in the chair. After reading the minutes of the last meeting, the Secretary read the report of the Committee to Correspond with the Apiarists of other counties relative to some plan for fixing the price for honey.

A communication from the apiarists of Santa Barbara County relative to concentrating the sale of honey was received.

After some discussion, the following resolution was adopted:

Resolved, That we, the apiarists of Los Angeles County, co-operate with the brother apiarists of Santa Barbara and Ventura Counties in concentrating the sale of our honey shipped to San Francisco, in the houses of Stearns & Smith and Hatch & Barkley.

J. W. Wilson said the prospect for a good crop was fair, but, owing to the extreme poverty of the bees at the beginning of the working season, the crop would fall short.

J. E. Pleasants was of the opinion that it would not reach half of what it was in 1878.

I. S. Battles said that by this time in 1878 he had taken 7,000 lbs.; this season he had taken but about 1,500 lbs. from about the same number of colonies.

J. Haskell, of San Fernando, was called upon for his method of treating foul brood. He said: Clean out the hive thoroughly by scalding with hot soda water; 1 lb. soda to 20 gals. of water will renovate all brood combs. In his opinion, chilled brood was the origin of foul brood, and that it was spread through the apiary by the exchange of comb from one hive to another.

After making some arrangements for an exhibition of honey and the offering of prizes, the Convention adjourned till June 19, 1880. N. LEVERING, *Sec.*

Albany Co., N. Y., Association.

At the fifth semi-annual meeting of the Albany Co. Bee-Keepers' Association, held on April 6, 1880, the following officers were elected for next year:

A. Snyder, President; G. J. Flansburgh, G. B. Carpenter, F. Boomhower and G. J. Parent, Vice Presidents; W. S. Ward, Secretary; W. D. Wright, Treasurer.

The next meeting of the Association will be held at New Salem, Albany Co., N. Y., Oct. 5, 1880.

W. S. WARD, *Sec.*
Fuller's Station, N. Y.

Letter Drawer.

Woodland, Ill., June 9, 1880.

I have 57 colonies, with which to commence the season. About ⅔ of them are in good condition. I think white clover is as early as common in this locality, but not more than half a crop, yet I think there is plenty. The weather has been too cool since it bloomed, but is warmer now.

T. N. MARQUIS.

Jordan, Ont., June 7, 1880.

I have 93 colonies and they are now gathering honey from white clover. The hives I use have frames about 12½ inches square, and from 8 to 32 frames in each hive. My bees are doing well. I have hives with 15 brood frames (10 filled). Numbers of bees in this locality have starved. Success to the AMERICAN BEE JOURNAL; I have taken it ever since 1870. A. A. HONSBERGER.

Canajoharie, N. Y., June 8, 1880.

As regards the action of the North-eastern Convention, I consider it hasty and unjust in the extreme, and feel that the result will show the bee-keeping fraternity of America your worth and value. Your journal has the honor of being the best, and I should be at a loss without it. Whenever I have offered you an article to publish, it has appeared *verbatim* in the JOURNAL, notwithstanding I am a poor writer. May the editor of the AMERICAN BEE JOURNAL live long and reap the fruits of an unselfish devotedness to the interests of apiculture. SILAS M. LOCKE.

La Crosse, Wis., June 9, 1880.

Swarming time has commenced here, and bee-keepers are all very busy preparing for the season's work. The weather for the past 2 weeks has been rather unfavorable for the bees to gather honey. We have had excessive rain for the past 2 weeks. The last night's rain (8th of June) was the most damaging of the season. The white clover is just blooming, but about 3 weeks later than last year. May was an excellent month for the bees; they gathered honey extensively from fruit blossoms, and we had considerable honey dew. They also worked on the oak. The honey of the oak is not very good in quality. One of my colonies has some surplus; quite a number of them have stored large quantities of honey in the brood chamber during May. L. H. PAMMEL, JR.

Downsville, Wis., May 26, 1880.

About ⅔ of the bees in this part of the State died last winter or this spring. Those that came through in fair condition are doing well. I lost 6 out of 62; the first I ever lost in wintering. The flowers are secreting an unusual amount of honey thus far this spring. The basswood will blossom very full, and we are expecting a large honey crop. My first swarm came off yesterday. I expect more to-day. A. J. TIBBETTS.

Glen Rock, Pa., May 28, 1880.

I repudiate the unjust attack of the Northeastern Convention by promptly inclosing to you $1.50 to renew my subscription to the BEE JOURNAL for another year. Dear Editor, please to continue your fight for truth, right and "justice to all," as you have done in the past, like a brave Captain. Bees here are doing well, but it begins to be dry.

J. H. BUPP.

[Knowing that we had done nothing to merit the censure of the Utica Convention, we are not in the least disturbed, but had we been, the prompt and unmistakable rebuke given to it by our patrons—east, west, north, and south—would have reassured us. To all let us here return thanks for their "kind words" and hearty indorsement. We shall endeavor to storm the citadel of error and falsehood with red hot arguments, but will care for the wounded, the dying and the dead with charity, and cover their faults with its mantle. —ED.]

Dixon, Ill., June 3, 1880.

My bees are in good condition now; but, from the looks of white clover, there will be a light crop of honey, as it is mostly winter killed; only young plants from seed, and they are rather thin on the ground. Bees wintered well where they were taken care of, but box hive men have lost from ⅓ to all they had. I lost none. B. F. PRATT.

Crown City, O., May 20, 1880.

At present my bees are doing their level best on poplar blossom. I lost 20 per cent. of my bees during the winter, and the rest barely weathered it through, but now 71 colonies never had a better showing; everything "full up," and by the first week in June expect it lively in swarms. My hives and everything are in order for emergencies; I have Muth's extractor, and will use it to the tune of 1,000 lbs. in a few days: also a Bingham smoker. So when I walk into my apiary I have got to be choked off before I can come out. I like my bees, and therefore give my time wholly to their management; all have been opened, cleaned and re-cleaned, and every necessary attention given them. Please find inclosed the "Sweet William" for the JOURNAL another year; I must have "'im."

C. S. NEWSOM.

Sheridan, Mich., June 9, 1880.

1. When a queen is removed from a colony for the purpose of starting queen cells, can she be safely introduced at once in a strong nuclei of several frames of brood and bees taken from different hives?

2. If 2 colonies are united, one with a young queen, the other with an old one, will the old one be killed?

3. Should a sheet of foundation or an empty frame be placed between two frames of brood? My bees draw it out sooner than when placed at one side.

[1. Many report in favor of immediate insertion of the queen among bees thus brought together, but we prefer and use the introducing cage for 24, 36, or 48 hours, as circumstances seem to indicate.

2. If the young queen has not commenced to lay, she will undoubtedly be victorious in a royal combat, as the laying queen is more clumsy and cannot use her sting so readily.

3. When the weather is sufficiently warm and the season advanced to warrant spreading the brood, if the combs are *full* of it, the foundation can be alternated to advantage; but where put between combs in which the bees are storing honey, they will extend the cells in the old comb while drawing out the foundation, thereby causing the combs to be of different thickness.—ED.]

Bear Lake, Mich., June 14, 1880.

Bees wintered very poorly in this locality. One person who had 70 colonies last fall has lost all but one weak one; others have lost all. Nearly all have lost ½ or more. I feel that I have been very fortunate, for I put 46 of my own colonies with 8 belonging to a neighbor in my cellar last fall, and took out 50 good colonies this spring, which are doing moderately well, and are now commencing to swarm. D. H. HOPKINS.

Fuller's Station, N. Y., May 29, 1880.

I send to Prof. Cook the contents of a king bird's gizzard, with request to examine with a microscope and report in the AMERICAN BEE JOURNAL.

W. S. WARD.

[This poor king bird, slaughtered for the good of science, had one consolation at least—his last meal was rich and bounteous; fragments of nearly all kinds of insects were to be seen, principally beetles. There was no sign of any bees—neither drones nor workers.

I know from actual examination that the king bird does sometimes capture worker bees, but with us the damage is very light. One can never examine the stomach of one of these birds without coming to the conclusion that, as an insectivorous bird, it ranks even with the beautiful blue bird, as par excellence. —A. J. COOK.]

Nebo, Ill., May 19, 1880.

I have 21 colonies; I wintered 7 colonies with good success; have divided this spring and bought 12 more. I am transferring them now. I have invented a clamp for fastening comb in frames, that makes quick work. It is as follows: Take a sheet of tin and cut it in strips ¼ in.; it must be long enough to admit of bending over the top and bottom bars at each end. Punch holes in each end large enough to allow a No. 12 wire to pass through; lay down the frame on 2 of the clamps, then put in the comb and slip the wire pins through; it is quickly done and they are easily taken off. If this idea is worth anything please give it in the JOURNAL. I have the same queen yet that I got of you last spring; she is a good one. E. T. BOGART.

Otsego, Mich., June 21, 1880.

Bees are doing finely since the flood of rains we had. We have had none now since the 15th. We now have bright clear weather, just right for honey. T. F. BINGHAM.

Hillsboro, Ill., June 19, 1880.

I send you a plant that grows around the town and in the fence corners. When cut the smell is splendid. The bees are working on it from morning till night. Please give me the name of it. My bees are doing nicely now.

J. H. SHIMER.

[It is motherwort, and is an excellent honey-producer.—ED.]

Huntsville, Ala., May 14, 1880.

Having been appointed Vice President of the National Association for Alabama, I acknowledge the compliment, and will do what I can to further the interests of bee-keepers in this State, for I think it one of the finest locations in the country for bees. I have 34 colonies of Italian bees, and I expect to double them during the season. I get from 80 to 100 lbs. surplus honey from each colony. Not long ago I had a swarm come off, and in 15 or 20 days every frame was filled with honey. I use a frame 9½x14½, and 19 to the hive. I am charmed with my success in bee culture, and shall do all I can to create an interest in the science of bee-keeping in this State.

JAMES A. AUSTIN.

Lansing, Mich., June 15, 1880.

In my report of the Central Michigan Bee-Keepers' Association last month, on page 277, it says that Mrs. Baker "gave statements of success with the chaff hive." This is is a mistake. She is all in favor of the cellar for wintering bees, and has the best of success. She probably has the best cellar in the State.

GEO. L. PERRY.

[This mistake was caused by a slight omission. It should have read thus: "Mrs. Baker described her method of cellar wintering, and gave statements of great success *that were a comparison* with the chaff hive." The words in italics were accidentally omitted.—ED.]

Hastings, Minn., June 5, 1880.

I have finally saved 13 cononies, 1 of them in fair condition. Rev. A. Telford has only 4 left out of the 84 colonies he had last season. Some reports of foul brood here. Some colonies that were strong last season, and not divided nor extracted, are now sending out swarms. We have had much wind and sudden changes, preventing many bees from returning to their hives, weakening many colonies. The Northern Wisconsin Bee-Keepers' Association met here on the 26th and 27th ult. It was not well attended but was an interesting meeting, and opened the way for a good meeting this fall at Minneapolis, where the next session is to be held, during the State Fair. WM. DYER.

Chester, S. C., May 24, 1880.

I have 14 colonies of bees in Langstroth hives and 10 in box hives. I had a swarm April 5. My bees are doing well now. H. S. HARDIN.

Emporia, Kan., June 3, 1880.
My bees are now doing well. I wintered 18 colonies on their summer stands without loss. I had 10 swarms in May. I think we shall have a good honey season this year. N. Davis.

Guise, France, May 29, 1880.
I always read the American Bee Journal with the greatest pleasure, and I peruse its excellent articles before I do those in any other journal published in Europe.
L'Abbe L. DuBois.

Plymouth, Wis., June 9, 1880.
Enclosed find specimens of a bug which is devouring what little basswood bloom we would otherwise have. I also send you a sample of their work. Please name the insect and their habits in the American Bee Journal.
J. N. McColm.

[This is one of the leaf-eating beetles (Dichelony cha elongatula, Say). It feeds on the leaves of various trees. I often get them by the score in jarring the plum trees for the plum curculio.—A. J. Cook.]

Linden, N. Y., June 14, 1880.
I have 48 colonies of bees in fine condition. They did not gather much honey, only enough to keep up brood-rearing, until June 12; since then they have been at work on white clover. I have 30 colonies of hybrids; they are excellent honey-gatherers, but a little crosser than pure Italians. I wintered on the summer stands, packed in planer shavings. I lost 3, 2 of them queenless. I transferred 31 of them this spring into movable frame hives. Success to the American Bee Journal.
Jas. S. Lord.

Greenpoint, N. Y., June 9, 1880.
Several plans have been tried for the fertilization of the queen in confinement, but as yet none have been thoroughly successful. I would like some one that has the conveniences to try an idea of mine. As it is the nature of the queen to fly high in the air, where fecundation takes place, may not the air at some certain heighth have some influence upon them? I would take gauze or netting of some kind; make it about the size and shape of a barrel, keep it in shape with about 3 or 4 hoops, put the queen and drones into it, and hoist it up in the air about 50 or 100 feet, by a flag-staff or some such means. Would not the experiment be worth trying? J. Newton.

Salem, Ind., June 7, 1880.
Parties from Nashville, Tenn., are here selling the "Golden Bee Hive," patented by David Thompson, July 3, 1877. They claim a combination patent covering nearly all the features of any movable frame hive, with division boards, feeders, etc. With many others of the readers of the Bee Journal I wish to have a certified copy of their claims published, so that we may know what their claims are.
John Craycraft.

[In order to ascertain exactly what Mr. Thompson patented, we sent to Washington for an official copy of the patent. From it we glean the following:

"What I claim as new, and desire to secure by letters patent is: The combination, with the hive proper of the supplemental hive or box B, feed-board A, feed-cup C, and key and lever E, all arranged substantially as described and shown. David Thompson."

It will be seen that this patent does not cover the hive proper (brood chamber), nor the frames nor division board. Mr. Thompson only claims the "combination" of his surplus arrangement with the hive proper. His surplus arrangement consists of small frames of the same length of the brood frames, but about ½ their depth; these hang by the top-bar, over the brood frames, and both the frames and their manner of hanging, together with their position on the hive, are all old, and have long been common property! The "combination" which Mr. Thompson claims is simply the attaching of his "supplemental hive," or surplus box, to "the hive proper," and he has no claim upon any movable frames, or any of the desirable features of the ordinary hives, or upon division boards. His "feeder," "key" and "lever," are the main points in his patent, and these are, perhaps, of the least importance to bee-keepers.—Ed.]

Vermillion, Dakota, June 16, 1880.
My bees are doing well. I started the season with 38 colonies; have increased by natural swarming to 70, and will probably have 20 more. Our honey season commences about July 1, and will continue till about Oct. 10.
C. G. Shaw.

Lebanon, O., June 17, 1880.

I have an Olm foundation mill and like it very much. I have already made 300 lbs. of foundation on it.

JOHN T. MARDIS.

Albion, Mich., June 20, 1880.

Bees are doing but little here; it has been too wet and cold, and I had to feed out more than 100 pounds of honey to keep them alive and the queens laying, and I do not think my 50 colonies have more than 2 lbs. of honey each, and yet they are mostly strong in numbers. The season looks dubious for honey.

A. GRIFFES.

[The glorious weather we are having now will work wonders in the line of gathering honey if it is the same in Michigan as here.—ED.]

Pearl Rock, Iowa, June 10, 1880.

I receive the JOURNAL regularly, and from it get much useful knowledge; first, by its advertisements of the best bee implements, and, second, by writings of such men as Doolittle and others, who have had much experience in the management of bees. From it I have been led to purchase a Bingham knife and smoker, an Everett extractor, an Olm foundatien machine, a Swiss wax extractor, etc., which are all first class implements. It will pay everybody that keeps bees to take the BEE JOURNAL. We have had the poorest honey-producing June so far that can be; it has rained excessively. My bees would have starved if they had not had some old honey. I have to feed the new swarms; they cannot make any comb, for there is no honey; but with the beautiful foundation and feed they go right along with their work. I hope to hear that others have had better times.

THOS. TRACY.

Macon, Ill., May 15, 1880.

In the fall of 1878 I had 5 colonies of bees; last fall 11. I had but little surplus honey last season. I have never lost a colony in wintering. I use the standard Langstroth hive, and give them 6 full frames of honey to winter on. I use division boards, chaff cushions on sides and top. I use enameled cloth over the frames, with a wire screen 2¼ in. square in the center; the cloth is elevated in the center about 2 in. to run the water each side of the cluster of bees. I draw the cloth down over the hive tight, and have the cap fit well. I winter thus on the summer stands, and they are strong in the spring.

F. J. STICH.

Coopersburg, Pa., May 24, 1880.

My bees came through the winter in very fine condition, and everything looked prosperous, but unless it rains soon our honey crop in this part will be a failure. I had a swarm on May 7.

PRESTON J. KLINE.

Morrison, Ill., June 19, 1880.

I have a fine field of alsike clover, and wish to know how to secure the seed. If some one who has had experience with it will write me at once how to do it, I will cheerfully pay them for their trouble, if they wish it, besides thanking them. It is the only thing my bees are at work on now. There seems to be no honey in the white clover, as the old roots were mostly winter-killed. I wish I had 10 acres of alsike instead of 2.

F. W. CHAPMAN.

[Alsike clover should be cultivated the same as the red. The first year it blooms but sparingly, but the second season it is at its best. After the third year it should be sown again, in order to perpetuate the crop. To save the seed allow it to stand about 2 weeks longer than if it were to be cut for hay. Obtain the seed with the aid of a clover huller.—ED.]

Woodbury, Conn., June 21, 1880.

White clover began to show May 26, and bees gathered honey from it about June 8, but were quite slow, and only about as much as they used for breeding purposes. The blacks were more frequently seen on it than the Italians; but about June 5 the Italians were quite freely working on red clover, in which our very dry weather appears to have dwarfed the flower tubes, and the colonies that had boxes on showed that the Italians would work on the red clover in dry seasons with a good will. I have examined closely into the reason why some people have thought their colonies were queenless when, in fact, they were not, and when the bees show by their actions that there is a queen present and yet no eggs are to be found. In such cases the queen, if found, will show at the end of the abdomen a hard, yellowish-white bunch, about the size of a small shot, which gives evidence that the queen is egg-bound and cannot lay. Two weeks since I was called to go about 10 miles southwest to examine a black colony in which a tested Italian queen had been introduced. I found her, after examining carefully for about an hour. All the brood in the hive was capped over, so that she must have been

egg-bound for about 10 days. I caught her and held her carefully by the head in my left hand, and, with a sharp needle in my right hand, I laid her sideways on the edge of the hive, and run the needle through the bunch close to the orifice of the abdomen, and pulled it out. In 2 or 3 days she began to lay again, and is now doing well. This is the 5th case that I have found in the last 2 years, and they were all good prolific queens. In 3 of the cases, I tried honey and warm water, and soaking them in warm water, but to no purpose. In the last 2 cases, I used the needle with perfect success. It is of no use to do anything for the first 5 days; but, after that time the accumulated eggs can be torn out, and in 3 to 5 days she will begin to lay again, and continue to do so all right. H. L. JEFFREY.

Dunlap, Kan., June 18, 1880.

I have some yellow melilot or sweet clover. It is 6 weeks earlier to bloom than the white clover, giving us that advantage. I want to know if this is a new bee plant. I have only about a dozen stalks of it, and these I obtained by an accident. One came up in my stock yard. I think it was brought by wild pigeons. It has all the good qualities of the white clover.

S. P. SOWERS.

[Melilot is one of our best honey producers, and gives honey of the very best quality.—ED.]

Camanche, Iowa, May 26, 1880.

I buried 195 colonies of bees last fall; I lost 7 in wintering thus, and 23 in springing them. My bees are all Italians, and are in good condition.

A. F. MCKENRICH.

Decatur, Ill., June 19, 1880.

No swarms; no honey; and bees are almost starving. I have kept bees for 15 years but never saw anything like this. There has been plenty of rain, but not too much; white clover is blooming abundantly, still there is no honey. Last year, with almost the same weather, we had a great yield of honey. Will not some kind friend "rise and explain?" E. A. GASTMAN.

[In all probability the winds have prevailed from the north-east or north-west. We have often noticed that we get no honey unless the wind comes from the south, south-east or south-west. Honey is now being gathered very fast.—ED.]

Nassagaweya, Ont., June 17, 1880.

I am well pleased with the AMERICAN BEE JOURNAL; especially the way you, dear editor, defend your rights when assailed. Do yourself and the BEE JOURNAL justice, and the great majority of bee-keepers will maintain and defend your rights. Mr. Heddon, in the June number, has done one side of the supply dealers' question ample justice, but omitted a very grave part on the apiarists' side. Allow me to show how a large majority of supply dealers act. They advertise with a great flourish; and, of course, we, at a distance, think they are all right. We make inquiry about something they advertise; a bargain is concluded, in a few days we forward the money. Now comes the trouble. For weeks and months we attend the mails, but receive not a word. The articles ordered are forgotten; while the supply dealers are whistling some merry tune, at home, or on some excursion of pleasure, it may be, while we are disgusted with their silence and delay. It seems this habit is too general. Canadian supply dealers and queen-breeders are dragging along, a month behind their orders. Some facts will illustrate. In September, last year, I sent to a queen-breeder for queens; it was three weeks before I got a reply. This spring I placed an order with a foundation manufacturer; I got it on the 12th of June. Last, and not least, I ordered a tested queen, and paid for her last May. She was to be shipped about the 20th of that month, but no queen has yet come to hand. Such things should not exist. Now, I would suggest that each of the bee journals exact a deposit of $500 from those advertisers, to be applied on all the non-fulfillment of their contracts. Brother bee-keepers, be careful to whom you send your money. I shall be more careful in future. It is my duty to say that during 3 years I have only found T. G. Newman & Son, A. I. Root and G. M. Doolittle to be punctual in filling orders for the respective articles they advertise. R. L. MEADE.

[Now that we are out of the business of "supply dealing," like Mr. Heddon, we feel free to make a few remarks for the general good. Our correspondent mentions some names of dilatory dealers. Out of a sense of justice to all we have omitted the names. The transactions mentioned will sufficiently point out to the persons referred to, the matter complained of, and we hope hasten the filling of the orders, and the adop-

tion of more promptness in the future, if it can be helped. We *know* that some have to work almost day and night to keep up with their orders—for all rush in orders at the same time, and all want them filled in a great hurry. During the 3 or 4 years that we were in the "supply" business it was the rule here that all letters must be attended to and acknowledged the same day, and, in nearly all cases, the goods were shipped the same day, or at most within a day or two, except orders for special sizes or makes, something not kept in stock, or articles which had to be made to order. In such cases, as we were at the mercy of manufacturers, we could only *wait* and send postal cards asking them to "hurry up," etc. In some cases we know they were "worked almost to death," as some of them expressed it to us, to keep up with their orders and please their patrons.

Queen-breeders this, as well as last year, have had a hard time to keep up with their orders. The weather was such that after rearing queens they could not be fertilized, or were lost on their "marriage flight," and so delays and disappointments were the result.

We must all exercise much patience with one another, for it is so hard to appreciate the circumstances in which others are placed, when we are not witnessing them.

In some cases delays are caused by the "dealer" not having sufficient capital to carry a stock, or facilities for manufacturing on a large scale when the rush comes.

Mr. Meade is rather hard on some "dealers," and we happen to know a few of such who have no business qualities, and could not carry on any kind of business with credit to themselves or pleasure to their customers. We have refused to advertise for such, and have thereby saved bee-keepers from losses and annoyances.

The plan suggested by Mr. Meade is impracticable; it has one feature to recommend it, however. It would give bee-keepers the assurance that when they sent their money to a dealer he would be a responsible party, and they would be sure of getting what they ordered or have their money refunded. With so many small dealers (which are daily increasing), the plan could not be carried out. Sometimes these are more responsible and conscientious than older and larger ones.

Then, again, buyers are *not all* honest and conscientious. We know by experience some are unreasonable and unjust; though the great majority of them are the opposite to this, we are happy to say.

The only remedy that is available, we think, is for bee-keepers to send their orders to those they know to be prompt and reliable dealers. It is quite certain that bee papers cannot always determine the business capacity or responsibility of their advertisers, no matter how much care and watchfulness they may exercise.—Ed.]

Dunkirk, N. Y., June 16, 1880.

Bees have wintered well in this section of country. I had mine packed with dry leaves, out of the woods. I lost none out of 22 colonies. The spring has been rather unfavorable for honey gathering, up to this time, but to-day bees have done well. White clover in full bloom. The basswood trees hang very full of flower-buds. I had 7 swarms come out to-day. Wm. Bolling.

Princeton, Wis., June 22, 1880.

Last week a part of one of our swarms went to a tree, and I took the Bailey Swarm Catcher and held it under the bees, and shook them off into it; I let them settle and then took them to the hive. We have been using this Swarm Catcher this summer with much satisfaction. My son, a lad 17 years of age, has hived several swarms with it. It is easily adjusted to the hive—the extension standard keeping it in any desired position. We adjust that and the sliding door in the morning and set the swarm catcher near the hive. When the swarm begins to issue from the hive, I set the swarm catcher close to the mouth of the hive, use the two cloths to stop all cracks about the entrance of the hive, and the bees are captured. When the swarm is in, shut the sliding door, and set the swarm catcher to one side until you are ready

to hive the bees. The ease with which a swarm is secured is astonishing. When the hive is ready we carefully carry the swarm catcher to it, turn the large end, where the bees have clustered, to the mouth of the hive; remove the door, and shake the bees out on to a board in front of the hive, and proceed as usual. MRS. AARON BAILEY.

Libertyville, Mo., June 10, 1880.

The enclosed specimen of a plant grows here; about 15 inches high, 4 or 5 stalks from one root. What is it? Bees are averaging well. What becomes of the poison from bee stings, when once in the blood? If it does not remain there, what counteracts it?

G. B. DINES.

[The specimen of plant inclosed is *Ceanothus Americanus* (Jersey tea, red root), a shrub very common in dry woods and on poor land. I have received it before as a bee plant.—W. J. BEAL.

Poisons taken up by the blood from the alimentary canal, or those injected directly into the blood, are either decomposed and eliminated, or directly eliminated, by the excretory organs—the lungs, kidneys and skin—or they pass into the secretions, as the milk, the perspiration, etc.—A. J. COOK.]

Honey Creek, Ky., June 16, 1880.

To makers of comb foundation I would suggest that the easiest and by far the most preferable way to work sheet wax is *dry*, with flour or starch rubbed over it, just enough to take off the stickiness. The sheets roll through the machine like pie-crust, and the bees seem to appreciate the change from soap to biscuit very highly, judging from the readiness with which they go to work on it. I give Mr. Heddon notice that I think of applying for a patent on this. My plan will be to roll in enough biscuit with the foundation so that when put in the sections and filled out with sweets, it will be both *bread* and *honey*. It will come within the scope of my invention to furnish honey cake of all styles and qualities from cornpone to pound cake, all done up by the bees in prize boxes, pound sections, or any size to suit the market. The floured foundation needs no paper between sheets, and is better without washing, though, if preferred for any reason, the flour can readily be washed off with a soft brush. Makers of foundation who have not yet "got used to" the muss of starch, soap and slippery elm will appreciate this suggestion, no doubt. To those who think the old way the best I offer no sympathy. W.C.P.

[Our correspondent feels very merry over his "biscuit foundation." After the "pound cake," perhaps the bees will try their skill at making "bride's cake" for the "*honey* moon," and perhaps may be induced to store honey-wine, metheglin and mead in their cells, all ready for parties and picnics. This is an age of wonders.—ED.]

Wagon Works, O., June 18, 1880.

While transferring some colonies of bees from box to frame hives, for a neighbor, a short time since, I came across what I suppose is foul-brood. At the time I thought the worms were the cause of the caps of the cells being perforated; there being many worms in the hives. I transferred the last one on Friday, and upon going on Monday to remove the wires that held the combs in the frames, I saw a large number of open cells with the putrid remains of brood that had never been capped over, and in attempting to remove it found it to be tough and tenacious, and of all shades of color from a nearly white, ropy mass, to black, and in either color looked very much like ordinary pus, or matter of the same color from a wound or sore on a person, and very offensive; so much so, that I have smelled it when standing by one of the hives when closed up tight. I went immediately and read all I could find about it in my bee books, and in the AMERICAN BEE JOURNAL for the past 9 years. But I did not find any rule that tells me how I may know every cell that has foul-brood in it. Mr. Muth, in November JOURNAL, 1879, says: "We recognize those capped cells afterwards, by their flat appearance and a little perforation in the middle." I find that all the flat cells, whether perforated or not, and a great many others that look as though they contained healthy brood, are foul-broody. I have not tried any remedy for it yet, but shall follow Mr. Muth's directions, with salicylic acid and soda borax in one hive, and Dr. Abbe's, or Mr. Whiting's method with the hypo-sulphite of soda in another; and I will then have five more to try other remedies on. Will not the fumes of burning sulphur destroy the fungus that is said to be the cause of the disease? If, as Dr. Prenso says, "a single cell may contain forty billions of the fungi," I do not see how I shall ever be able to spray each one in all the multitude of cells in a hive. A. B. MASON.

Weston's Mills, N. Y., June 18, 1880.

My partner, Geo. A. Wickwire, and myself desire some information concerning the workings of our bees this spring, as their conduct, to us, at least, is a little surprising. The facts are these: Our colonies were cased and packed in chaff last fall on the summer stands, and came through the winter in good condition, and in the spring were strong and healthy, with a large amount of brood, and no speckled or mildewed comb. Up to May 10 a fair proportion of drones was observed. Upon that date a heavy frost occurred, which killed all our honey-producing flowers, and since that time no drones have been seen. Our bees have shown no disposition to swarm up to this date, while other colonies in this vicinity, which were not packed, and which came through the winter in a weak and unhealthy condition, have cast their first swarms. Our bees were transferred to the Langstroth hives about the middle of May, and no queen cells were discovered at that time. They are now storing rapidly, and, upon examination, we find queen cells that have been finished and then destroyed. About 50 colonies have been wintered in the manner described, and are working in this unusual way, showing no disposition to swarm. Can you tell us any reason for their strange behavior? We have no unusual amount of box-room. Our hives are overflowing with bees. Would it be advisable to swarm artificially at this late period in the season?

R. V. KING.

[Your bees evidently commenced to breed early, and when the frost occurred which killed the bloom, they were discouraged and killed the drones, they probably destroyed the worker brood and have not been strong enough since to prepare for swarming. As they are now srtong, they may be divided.—ED.]

Port Leyden, N. Y., June 21, 1880.

Desiring to purchase a good comb foundation machine, I sent for samples from 4 different manufacturers, and I selected the Olm as the best and cheapest. In due time my machine came, and I am satisfied with the work it does. I can make foundation with heavy cell walls and very thin base, of the natural shape for the brood chamber, or starters for boxes. My bees accept it readily, and draw it out much sooner than any other that I have ever used. These machines are compound gear and well made, and I believe are by far the best and cheapest made.

M. M. STIMSON.

Winooski, Wis., June 5, 1880.

On page 298 of the BEE JOURNAL for June, I notice that Jas. Forncrook claims a patent on the one-piece section, and on page 299, Lewis & Parks state that there is no patent on it. Which shall we believe of these contradictory statements? I would like to know the facts in the case.

G. H. PIERCE.

[The facts are these: Both of these parties have applied for a patent, and so has Mr. T. J. Dalzell, of Michigan. A patent has been *allowed* to Jas. Forncrook & Co., after a prolonged litigation between the two parties at Watertown, Wis. Then came Mr. Dalzell's claim, and an "interference" was instituted between him and Jas. Forncrook & Co., before the patent was *issued*. Now this "case" will be "tried," and as soon as it is decided we shall give it in the BEE JOURNAL. The "discrepancy" in the advertisements complained of is simply this: Jas. Forncrook & Co. say that the "patent has been *allowed*," and Lewis & Parks say that "there is no patent on it." It is a dispute over technicalities—but both are absolutely correct.—ED.]

Watertown, Wis., June 14, 1880.

EDITOR BEE JOURNAL: Will you do us the kindness to set us right before your many readers. We have advertised to your readers that there is no patent on the Lewis section. In your last issue Mr. James Forncrook claims to have a patent on said section, and holds us up to your readers as swindlers in that we have tried to mislead the public by saying there is no patent on the section. Now we again state that there is no patent on this section, and if you will do us the justice to write to the Commissioner of Patents you will officially ascertain that no patent has ever been issued to any one on said section.

LEWIS & PARKS.

[As the patent was "allowed" but not "issued," because of another "interference" being instituted by Mr. T. J. Dalzell, both statements can be reconciled. We regret that these gentlemen should be so enthusiastic. It would be much better to make a *plain* statement of the facts, rather than to dispute about technicalities. See our answer to G. H. Pierce.—ED.]

Business Matters.

OUR TERMS OF SUBSCRIPTION,

PAYABLE STRICTLY IN ADVANCE.

Single subscription, one year		$1.50
Two subscriptions,	" "	2.50
Three subscriptions,	" "	3.50
Four subscriptions,	" "	4.50
Five or more,	" " each,	1.00

Advertisements will be inserted at the rate of **20 cents** per line of Agate space, for each insertion. A line will contain about **eight words**; fourteen lines will occupy an inch of space. Advertisements must be received by the 20th, to insure insertion.

Special Notices 50 cents per line.

☞ We intend only to advertise for reliable dealers, who expect to fulfill all their advertised promises. Cases of *real* imposition will be exposed.

Remit by express, money-order, registered letter or New York or Chicago drafts, payable to our order. *Do not send checks on local banks*, for such cost us 25 cents each for collecting.

THOMAS G. NEWMAN
974 West Madison St. CHICAGO, ILL.

District Convention at Chicago.—The responses to the inquiry, "Shall we have a District Convention at Chicago this fall?" are numerous and emphatic. With one accord they say: "Yes; by all means issue the call, and we will be there." In obedience to this request, we now give notice that there will be a District Convention, composed of the Northwestern States, held at Chicago on Tuesday and Wednesday, Sept. 14 and 15, 1880, commencing at 10 a. m.

National Convention.—The North American Bee-Keepers' Society will hold its annual session at Cincinnati, O., on Wednesday, Thursday and Friday, Sept. 29, 30 and Oct. 1st, 1880, commencing at 10 a. m. Further particulars in due time. By order of THE EXECUTIVE COMMITTEE.

☞ We received an early importation of Italian queens on June 1st. Some of them were very fine, but many died *en route*, it being so cold on the Ocean; they were also short of food.

☞ A 20-page Catalogue of James Forncrook & Co., Watertown, Wis., is at hand. They manufacture hives, sections, etc.

☞ We have received the Circular and Price-List of Joseph W. Newlove, Columbus, Ohio, who sells all kinds of apiarian supplies.

☞ The prices of tin have been again lowered, and prices of some tin goods have also declined to old rates.

☞ By referring to the printed address on the wrapper of every copy of the BEE JOURNAL, each subscriber can ascertain when his subscription expires. We stop sending the BEE JOURNAL promptly when the time for which it is paid runs out—sending only during the time paid for. In making remittances, *always* send by postal order, registered letter, or by draft on Chicago or New York. Drafts on other cities, and local checks, are not taken by the banks in this city except at a discount of 25c., to pay expense of collecting them.

Honey & Beeswax.

[We will insert free of charge, under this heading, the names and addresses of persons having honey and wax to sell, giving address, description and prices; all to occupy not more than three lines.—ED.]

Honey and Beeswax Market.

BUYERS' QUOTATIONS.

CHICAGO.

HONEY.—Light honey, in single-comb sections, 14@16c.; when with more than one comb in a box, 2c. per lb. less. Extracted, 7@9c. No new honey on the market yet.

BEESWAX.—Prime choice yellow, 22@23c; darker grades, 15@20c.

NEW YORK.

HONEY.—Best white, in single-comb sections, 15@17c. Larger boxes, 2c. per lb. less. Extracted, 7@9c.

BEESWAX.—Prime quality, 23@24c.

CINCINNATI.

HONEY.—No new comb honey in the market yet. New extracted honey is slowly coming in. I have paid 6@8c. on arrival.

BEESWAX—In good demand at 20@25c.

C. F. MUTH.

SAN FRANCISCO.

The new crop of honey is coming forward freely, and the quality is generally good; the estimated yield is about ½ as much as 1878. The market so far has cleaned up for local and Eastern shipments. Buyers for European markets are waiting for lower figures for extracted. We quote:

HONEY—Comb, 12@15c.; Extracted, 5@6c. ℔ lb., in bbls. and cans.

BEESWAX—22@23c. STEARNS & SMITH.

Local Convention Directory.

1880.	*Time and Place of Meeting.*
July 27	—Cortland Co., N. Y., at Cortland, N. Y. C. M. Bean, Sec.
Aug. 9	—Lancaster Co., Pa., at Lancaster, Pa.
31	—Rock River Valley, at Davis Junction, Ill. D. A. Fuller, Sec., Cherry Valley, Ill.
Sept. —	—W. Ill. and E. Iowa, at New Boston, Ill. Will. M. Kellogg, Sec., New Boston, Ill.
14, 15	—District Convention, at Chicago, Ill.
29, 30	and Oct. 1—National, at Cincinnati, Ohio.
Oct. 5	—Albany County, N. Y., at New Salem, N. Y.
5, 6	—Northern Michigan, at Carson City, Mich.
7	—Central Michigan, at Lansing, Mich. Geo. L. Perry, Sec., Lansing, Mich.
14	—Southern Kentucky, at Louisville, Ky.
Dec. 8	—Michigan State, at Lansing, Mich.
1881.	
Feb. 2	—Northeastern, at Rome, N. Y.
5, 6	—Ashtabula Co., O., at Andover, O. W. D. Howells, Sec., Jefferson, O.
April 5	—Central Kentucky, at Winchester, Ky. Wm. Williamson, Sec., Lexington, Ky.

☞ In order to have this Table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

Bingham's Smoker Corner.

Brownsville, Ky., June 7, 1880.
T. F. Bingham, Otsego, Mich., Dear Sir: Please send me a half-dozen extra standard smokers by mail. The half-dozen you sent went off like hot cakes. Respectfully,
W. HAZELIP.

Galesburg, Ill., June 21, 1880.
I wish you would send by mail another of your large size Bingham Smokers to my address. This is the fifth or sixth one that I have ordered for myself and others.
HARMON BROWN.

☞ We are prepared to supply all new subscribers with the numbers from January when it is so desired.

LARGEST BOOK PUBLISHED.—The new edition of Webster's Unabridged Dictionary, just issued, is believed to be, in the quantity of matter it contains, by far the largest volume published. It now contains about 118,000 words defined, and nearly 15,000 words and meanings not found in any other one dictionary. The Biographical Dictionary, just added, supplies a want long felt by the reader and student, in giving the desired information so briefly. Never was any one volume so complete as an aid in getting an education.—*Adv.*

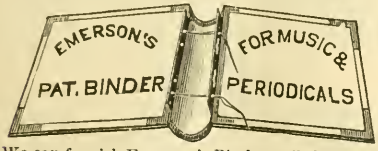
DISSOLUTION NOTICE.

Notice is hereby given, that the co-partnership heretofore existing under the name of THOMAS G. NEWMAN & SON, is this day dissolved by mutual consent. All accounts due to the said firm must be paid to Thomas G. Newman, who will also pay all claims against the late firm, and continue the publication of the AMERICAN BEE JOURNAL and Bee Books and Pamphlets. The business of dealing in Bee-Keepers' Supplies will be continued by Alfred H. Newman. Dated at Chicago, Ill., July 1, 1880.
THOMAS G. NEWMAN,
ALFRED H. NEWMAN.

GOOD BEE FARM
For Sale.

I now offer my Bee Farm, consisting of 40 acres of good land, good orchard, good new house, cost $1,200 3 years ago, splendid cellar that will hold 150 colonies of bees, good market for honey. Price, $50 per acre; $1,000 down, balance on long time if wanted. For further particulars address,
7-9 **R. MILLER**, Compton, Lee Co., Ill.

Binders for the Bee Journal.



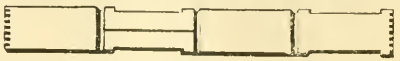
We can furnish Emerson's Binders, gilt lettered on the back, for the AMERICAN BEE JOURNAL, at the following prices, postage paid:

Cloth and paper, each.....50c.
Leather and cloth.....75c.

☞ We can also furnish the Binder for any Paper or Magazine desired.

THOMAS G. NEWMAN,
974 West Madison Street, **Chicago, Ill.**

Decided!



A patent on this "Boss" One-Piece Section, heretofore called the LEWIS SECTION, THE FINEST SECTION IN THE WORLD, has been allowed to James Forncrook.

We clip the following from Lewis & Parks' advertisement in May number of A. B. J., to show how they have tried to mislead the public in this matter:

'NOTICE.—There is no patent on the above Section, and the Examiner of Interferences of the Patent Office has adjudged the same unpatentable; so, any one has an undisputed right to manufacture sell or use the same. Do not be misled by parties claiming a patent on the same."

We leave this matter to the public to judge who has tried to mislead. This, however will make no difference with the price of these Sections, as we shall sell them at the old price: 4¼x4¼ at $6.00. We will make the One-Piece Section any size desired. Liberal discounts on orders of 5,000 and 10,000 lots. Send for new price list, issued May 1st. Full Colony of Italian Bees, $6.00.

JAMES FORNCROOK & CO.
Watertown, Wis., June 1, 1880. 6-tf

BAILEY'S SWARM CATCHER.

Waupaca, Wis., June 16, 1880.

To whom it may concern:

Having this day witnessed the operations of the Bailey Swarm Catcher, in capturing a swarm of bees in this place, I would cheerfully recommend it to any one who keeps bees. Respectfully,
G. W. LEWIS, Landlord of the Lewis House.

Simplicity, Chaff and Story-and-Half Hives,
SECTIONS, FRAMES,
DUNHAM FOUNDATION, ETC.,
CHEAP.

Workmanship superior. Manufactured by
MERRIAM & FALCONER, Jamestown, N.Y.

TESTED QUEENS $1.50.—Tested Queens, daughters of imported mothers, $1.50; Dollar Queens, 90c.; Mis-mated Queens, 50c. Safe arrival and Queens as represented guaranteed.
7-1tp J. A. WARD, Madisonville, Ohio.

BEES FOR SALE.

Good full colonies of Italian and hybrid bees for sale in 8-frame hives, with dollar queens, at $4.00; the combs are 13⅜x11. Good 4-frame nucleus, $2.50. A few colonies pure Italians to sell at $5.00. Dollar Queens, 6 for $5.00. Bee hives and empty combs to sell cheap. R. S. BECKTELL,
7-1tp New Buffalo, Berrien Co., Mich.

D. S. GIVEN,

Inventor and Sole Manufacturer of the

FOUNDATION PRESS.

Foundation in Wired Frames a Success.

We also Electrotype Dies any size desired. We make a specialty in rearing queens; all our queens are reared from the egg, and we send out none half-developed. Send for a descriptive catalogue of our Presses, Italian Queens, Foundation, and all kinds of useful implements. A sample of our Foundation sent free. **D. S. GIVEN**, Hooperston, Ill.

Italian Queens from Imported Mothers.

Tested Queens **$2 00**
Dollar Queens.....**1 00**
Dollar Queens, per doz.....**10 00**
J. T. WILSON, Mortonsville, Woodford Co., Ky.

1865.— THE —1880.

HONEY HOUSE.

C. O. PERRINE, 54 Michigan Ave., Chicago.

Will buy at a fair price, for cash, any amount of

COMB OR EXTRACTED HONEY.

As a Manufacturer of

COMB FOUNDATION,

I can say my goods have given entire and universal satisfaction. The ruling low prices were made by me, and any one desiring any considerable quantity would do well to consult me before buying elsewhere.

☞ Market price for Beeswax.

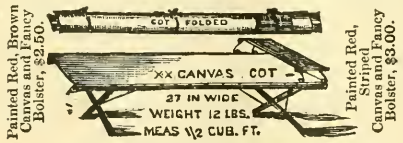
1861.- Nineteenth Year. -1880.

The Original Headquarters

For Italian Queen Bees. Cyprian and Hungarian Queens ready to ship June 20. Our Queens are golden color, and warranted as good as tested ones. Safe arrival guaranteed by mail or express. Price for each Queen, $1.00. Circular free.

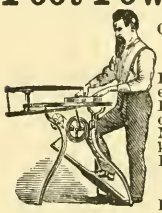
4-9 **H. ALLEY,** Wenham, Mass.

XX COT (not painted, White Duck) $2.


Painted Red, Brown Canvas and Fancy Bolster, $2.50.
COT FOLDED
XX CANVAS COT
27 IN WIDE
WEIGHT 12 LBS.
MEAS 1/2 CUB. FT.
Painted Red, Striped Canvas and Fancy Bolster, $3.00.

Makes a perfect bed. No mattress or pillows required. Better than a hammock, as it fits the body as pleasantly, and lies *straight*. Folded or opened instantly. Self-fastening. It is just the thing for hotels, offices, cottages, camp-meetings, sportsmen, etc. Good for the lawn, plazza, or "coolest place in the house." Splendid for invalids or children. Sent on receipt of price, or C. O. D. For **50 cts. extra,** with order, I will prepay expressage to any railroad station east of Mississippi river and north of Mason & Dixon's line. For **75 cents,** in Minnesota, Missouri and Iowa. HERMON W. LADD, 108 Fulton St., Boston; 207 Canal St., New York; 165 North Second St., Philadelphia; 94 Market St., Chicago. **Send for Circulars.** 6-8

BARNES' PATENT Foot-Power Machinery



CIRCULAR and SCROLL SAWS

Hand, Circular Rip Saws for general heavy and light ripping. Lathes, &c. These machines are especially adapted to **Hive Making.** It will pay every beekeeper to send for our 48 page Illustrated Catalogue.

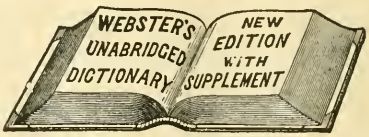
W. F. & JOHN BARNES,
Rockford, Winnebago Co., Ill.

THE BRITISH BEE JOURNAL,

AND BEE-KEEPER'S ADVISER.

The *British Bee Journal* is published monthly at $1.75, and contains the best practical information for the time being, showing what to do, and when and how to do do it. **C.N. ABBOTT, Bee Master,**
School of Apiculture, Fairlawn, Southall, London.

NEW EDITION.



Webster's Unabridged.

1928 Pages. 3000 Engravings.

Four Pages Colored Plates.

Now added, a **SUPPLEMENT** of over

4600 New Words and Meanings,

including such as have come into use during the past fifteen years—many of which have never before found a place in any English dictionary,

ALSO ADDED, A NEW

BIOGRAPHICAL DICTIONARY

OF OVER 9700 NAMES

of Noted Persons, ancient and modern, including many now living, giving Name, Pronunciation, Nationality, Profession and Date of each.

GET THE LATEST.

NEW EDITION contains a Supplement of over **4600** new words and meanings.
Each new word in Supplement has been selected and defined with great care.
With Biographical Dictionary, now added, of over **9700** names of Noted Persons.

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Edition of the best Dictionary of the English Danguage ever published.
Definitions have always been condeded to be better than in any other Dictionary.
Illustrations, **3000**—about three times as many as in any other Dictionary.
The Dictionary recommended by State Superintendents of **35** States, and **50** College Presidents.
In Schools—about **32,000** have been placed in Public Schools in the United States.
Only English Dictionary containing a Biographical Dictionary—this gives the Name with Pronunciation, Nation, Profession and Date of over **9700** persons.

Published by G. & C. MERRIAM, Springfield, Mass.

ALSO,

Webster's National Pictorial Dictionary.
1040 Pages Octavo; 600 Engravings.

Baker & Co. DESIGNERS AND **PHOTO ENGRAVERS ON WOOD.**
COR. CLARK & MONROE STS. CHICAGO.
DEALERS IN ENGRAVING TOOLS & ENGRAVERS OUTFITS.
ORDERS BY MAIL SOLICITED.

This remarkable medicine will cure Spavins, Splint, Curb, Callous, &c., or any enlargement, and will remove the bunch without blistering or causing a sore. No remedy ever discovered equals it for certainty of action in stopping the lameness and removing the bunch. Price $1.00. Send for illustrated circular giving positive proof, and your nearest agent's address. **Kendall's Spavin Cure is sold by Druggists,** or sent by Dr. B. J. Kendall & Co., Enosburg Falls, Vermont.

FULLER & FULLER, 22 Market street, and VAN SCHAACK, STEVENSON & CO., 92 Lake street, Agents, Chicago, Ill. 8y1

Special Notice.

HAVING purchased the department of Bee-Keepers' Supplies heretofore connected with the *American Bee Journal*, I hope to receive a continuance of the patronage bestowed upon the late firm.

I have presided over this department in the past as business manager, and my best recommendation to the bee-keeping fraternity is the former reputation of Thomas G. Newman & Son for promptness and reliability. **ALFRED H. NEWMAN,**

972 West Madison Street, Chicago, Ill.

Implements for the Apiary.

☞Catalogues sent on application.☜

Atomizers (postage 30 cents extra)..... $1 00

Bees—Full Colonies of Italians..... 10 00

Bee Feeders—Shuck's, by mail..... 30
Novice's, " 10
Kretchmer's, " 35
Van Deusen's " 75

Bee Veils—complete face protection, by mail, 50

Binders for Journal or any bee paper, by mail 50@75

Cases—Material to hold 3 Prize Boxes, per 100, 2 50
" " 2 " " " 2 00
" " 8 small sections, per 100. 2 50
Sample of 2 or 3 box case (postage 25c extra) 20
" 8 box case (postage 50c. extra).... 25

Comb Foundation—Sample by mail..... 10
Any kind, 1 to 25 lbs., boxed, per lb..... 42
Van Deusen's Wired and Thin, per lb..... 62
Dunham Thin 52
Machines to make it, see Catalogue.....

Comb Honey Racks—Sample with boxes and separators, complete—nailed.... 1 00
Material for 50 Racks, without boxes, &c.... 5 00

Family Counter Scales, ¼ ounce to 25 lbs.. 3 00

Foot Power Saws, see Catalogue....35 00 to 50 00

Gearing for honey extractors 1 50

Glass for honey boxes, 5x6, per box of 240 lights 3 00

Hives—Standard Langstroth.
No. 1—Brood chamber, 10 frames, portico, 7½ inch cap, but no surplus arrangement 1 25
No. 2—Same as No. 1, with Comb Honey Rack, complete..... 2 00
No. 3—Same as No. 1, but having 20 frames and Comb Honey Rack—complete 3 story hive..... 2 50
No. 4—Brood Chamber, 10 frames, and 7-inch story, with 7 cases containing Prize Boxes and tin Separators, for surplus honey, with 2-inch cap..... 2 25
No. 5—Same as No. 4, but having a second story containing 10 extra frames, a complete 3 story hive..... 2 50
No. 6—Brood Chamber, with second story containing 10 extra frames for extracting, and 2-inch cap..... 1 75

Standard Langstroth Hives—Ready to Nail.

Quantity.	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6
5 hives, each..	.95	1.45	1.75	1.60	1.85	1.25
10 hives, each..	.90	1.40	1.70	1.55	1.80	1.20
25 hives, each..	.85	1.35	1.65	1.50	1.75	1.15
50 hives, each..	.80	1.30	1.60	1.45	1.70	1.10
100 hives, each..	.75	1.25	1.55	1.40	1.65	1.05

Hives—New Langstroth, with Manipulating Side. For New Langstroth, Nos. 1, 2, 4 and 5 add 50c., and for Nos. 3 and 6 add 75c. to prices given for Standard Langstroth. If painted, add 50 cents more per hive.

New Langstroth Hives—Ready to Nail.

Quantity.	No. 1.	No. 2.	No. 3.	No. 4	No. 5.	No. 6
5 hives, each..	1.25	1.75	2.05	1.90	2.15	1.60
10 hives, each..	1.20	1.70	2.00	1.85	2.10	1.55
25 hives, each..	1.10	1.60	1.90	1.80	2.05	1.50
50 hives, each..	1.05	1.55	1.85	1.75	2.00	1.45
100 hives, each..	1.00	1.50	1.80	1.70	1.95	1.40

All Langstroth hives have Metal Rabbets for frames to rest on.

Hives—Doolittle's 2-story Hive, complete..... 4 50
Hill's Winter-Hive, complete 3 00
North Star Hive, with Surplus Arrangement 3 00
Worrall's Centennial Hive, complete..... 5 00

Honey Extractors—
Excelsior—for 2 Langstroth frames, 10x18... $9 00
for 2 American frames, 13x13.... 9 00
for 2 frames, 13x20 or less..... 12 00
for 3 " " " 12 00
for 4 " " " 14 00
Novice's—for 2 Gallup frames 7 50
for 2 American frames 7 75
for 2 Langstroth frames..... 8 00
for 2 frames of any size 9 00
Muth's—for 2 frames of any size..... 15 00
Everett's—for 2 frames of any size..... 10 00

Some of older styles offered from **$5** *to* **$10.**

Honey Gates 75

Honey Jars (common square), per gross, 1-lb 6 50
" " " 2-lb... 8 50

Honey-box Caps, Moore's, per 100..... 1 25

Honey Labels, per 1,000 .....1 00 to 4 00

Honey Knives—Muth's, each 50
Bingham & Hetherington's..... 1 00
with Cap-Catcher, complete 1 25
Schofield's, Novice's, Murphy's or Chapman's 75
If wanted by mail, each, 15 cents extra.

Kretchmer's Metal Bearings, per 100, by mail 15

Novice's Metal Corners, per 100..... 50

Novice's Transferring Clasps, per 100..... 25
Sent by mail for 10 cents extra.

Queens—Tested Italian 2 50
in 1-frame nucleus..... 4 50
in 2-frame nucleus..... 5 00

Queen Cages—Harris' Mailing & Introducing 10
Hastings' Mailing, not provisioned 10
Novice's, Scovell's, and others 10
any of them, per dozen, by express..... 1 00

Queen Registering Cards, per doz., by mail 10

Rubber Gloves per pair, by mail..... 1 75

Scissors for clipping queens' wings, by mail... 50

Sections all in one piece, 4¼x4¼, per 1000.. 7 00
Sections all in one piece, 5¼x6¼, per 1000.... 7 50

Sections, ready to nail, 4¼x4¼ or 5¼x6¼:
sample, by mail..... 5
narrow top-bars, 500 for $3.50 ; 1000 for 6 00
wide top-bars, 500 for $4.00 ; 1000 for..... 7 00

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Catnip.....per oz., 10c.; per lb. 1 00
Chinese Mustard..... " 10c.; " 1 00
Mignonette..... " 20c.; " 2 00
Motherwort ..... " 10c.; " 1 00
Borage ..... " 10c.; " 1 00
Spider Plant..... " 25c.; " 3 00
Basswood ..... " 75
Imported Bokhara Clover..... " 50
Summer Rape..... " 20
Silver Hull Buckwheat..... " 20
Teasel..... " 75
Cleome, Rocky Mountain Bee Plant, per oz. 25
If sent by mail, add 20c. per lb. for postage.

Shipping Crates—Material, per 100..... 9 00
Sample Crate, flat, and 1 Prize Box..... 25
Sample Crate and 12 boxes nailed, no glass.. 50

Slates—Sample by mail, 10c.; 50 by express.... 1 50

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Scovell Cold-Blast, " 1 25
Sutliff's, " 2 00

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Tin Points, for glassing, per 1,000, by mail.... 50

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Whitman's Fountain Pump 8 50

Wire Cloth for extractor, tinned, per sq. ft... 15
for queen cages, " 12
painted—14 meshes to 1 inch "

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HONEY WANTED.—I desire to purchase several barrels of dark extracted honey, and a few of light ; also, Comb Honey. Those having any for sale are invited to correspond, giving particulars.

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COLONIES,

With Imported Tested Italian Queen $13 00
" Home-bred " " " 9 00

Hybrids or blacks in movable-frame or box hives. Have wintered over

100 IMPORTED QUEENS,

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1880.— —1880.

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" " Untested (laying) 1.00

By the dozen, 10 per cent. off of above prices. Queens sent by mail and postage prepaid.

3 frame Nucleus, Untested Queen..... $3.00
2 frame Nucleus, Untested Queen..... 2.50
1 frame Nucleus, Untested Queen..... 2.00
8 frame Colony, Untested Queen..... 6.00

Sent by Express. Send money by P. O. Order or Registered Letter. Address,

W. P. HENDERSON,

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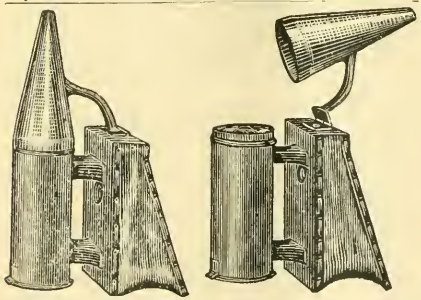

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☞ The highest price paid for Beeswax.

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BEES OR HONEY

We will with pleasure send you a sample copy of our

Monthly Gleanings in Bee-Culture,

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Essex are the best Farmers' Pig; have been known to dress 90 per cent. of live weight; small bone, light offal, quick to mature. Jos. Harris, author of "Harris on the Pig," etc., says of my Boar "Porter," that he is the finest Essex Pig he ever saw. A few **Pedigree Pigs** for disposal at moderate prices, suitable for breeding or exhibition. Personal inspection of my stock is solicited. All correspondence will have cheerful and prompt attention.

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N. B.—A limited number of Eggs for hatching from prize-winning Brown Leghorns and Black Red Bantams, at $2.00 per 13. Warranted to hatch. 4-yl

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Golden Italians.

Fine Tested Queens a specialty. **Send for Circular, and see what others say of them.**

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THE AMERICAN

BEE JOURNAL

Devoted Exclusively to Bee Culture.

Vol. XVI. CHICAGO, ILLINOIS, AUGUST, 1880. No. 8.

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Editor's Table.

Mitchell Heard From.—A little paper published in Missouri, devoted to poultry and bees, contains a letter from N. C. Mitchell, in which, among other things, he says that he incurred the hostility of *Gleanings* and the AMERICAN BEE JOURNAL in this way: "They brought suit against me for infringing on their patent, and they never dared to try the case." The editor of that paper remarks as follows: "If the AMERICAN BEE JOURNAL and *Gleanings* brought suit against you for infringing on their rights, and they did not *dare* to force the suit, it showed a piece of cowardice on their part," etc.

There is not a word of truth in all these assertions. We never had a patent on which Mitchell "or any man" *could* infringe. It is a falsehood made up out of whole cloth, without the slightest thread of truth to hang on. But this is a fair specimen of many such that are contained in every issue of that paper—all of which are not worth the repetition necessary to refute them. Truth only will stand the test—

"The eternal years of God are hers."

Experiments with Foundation.

Having been furnished some fine looking samples of Given's foundation in wired frames, we felt desirous of testing it, and as its merits had been rated very high, we determined to make a comparative trial with the best in the market for ordinary use in the apiary. We determined also to test the desirableness of foundation made from very dark wax, and its liability to sag or twist. At the time of making the experiment honey was not coming in abundantly, the bees gathering mainly from melilot.

A 1-story, 10-frame Langstroth hive was selected, containing only a moderately strong colony, which had been depleted once or twice to strengthen others. July 12, at 7 a. m., a sheet of Given wired foundation, made from yellow wax, about 5 feet to the pound, was placed in the centre of the hive, flanked on each side with a comb of brood; second to the right was placed a sheet of yellow Dunham, 4½ feet to the pound, and second to the left a sheet of very dark Dunham, about 5¾ feet to the pound. In the evening the queen was removed from the hive, and another introduced by caging on the surface of a brood comb. At this time the heavy yellow Dunham was worked over about ⅔ its surface on both sides, cells being drawn out about ⅛ of an inch. The dark Dunham was worked in the upper corners only, and drawn out about 1-16 of an inch. The Given frame was entirely deserted, and nothing done. On the following morning the bees were badly demoralized, having discovered the loss of the old queen, and very hostile to the intruder. Until the 16th, work was almost wholly confined to the yellow Dunham, although some work was done on the dark Dunham, but nothing yet on the Given. Bees were storing honey in the yellow Dunham; and being ready to accept and protect the queen, she was released. On the 17th the queen was found on the yellow Dunham, and bees working with spirit on both Dunham sheets; also at work on the Given. At this writing (July 24) every cell of the yellow Dunham is occpied with eggs, larvæ or honey; most of the surface of the dark Dunham is worked out, and honey or eggs deposited in the cells, while about ⅛ of the surface of the Given is being worked upon, but not sufficiently advanced for use.

On the 14th ult. we commenced experiment No. 2, by placing a sheet of each of the foundations described in a 5-frame nucleus colony with a good queen (increasing it to 8 frames), sheets occupying same positions. The result was the same as the first experiment, except that the bees gnawed several holes in the Given foundation, in their efforts to remove the wires.

In neither of the foregoing tests is there any sagging or twisting. Suspecting soapsuds had been used to wash the plates by Mr. Given, we wrote to him upon this point. He answered that he had for a time used scented soapsuds, but had discovered the bees did not like it, and he had abandoned it. Mr. G. sent us several sheets of his present manufacture, which will probably be more satisfactory in a future trial.

About the 6th ult., Mr. D. A. Jones sent us a sheet of Abbott's foundation made on a wooden base. The board is about 1-16 of an inch thick; this is coated on both sides with wax, then placed between plates, which are put in a press and a flat-bottomed impression made in the wax. This waxed board was tacked in a frame and placed in the brood chamber of a strong colony. The bees took to it speedily, and at this time every cell is built out and occupied with brood or honey.

With no desire to make invidious comparisons, or to create a popularity for one product more than another, a sense of duty to our readers impels us to give the conclusions arrived at after two seasons' experiments, and the experience of many others: 1. We are more than confirmed in the opinion we expressed last season, that the Dunham foundation is the best in the market; 2. Yellow wax is more acceptable to the

bees than either bleached or dark wax; 3. Bees will build out and complete medium heavy foundation, say 5 feet to the pound, sooner than light weight; and heavier foundation is unnecessary, inasmuch as the bees do not complete the comb before honey and eggs are deposited, after which they can use but little of the surplus wax in the foundation; 4. The point of superiority in Dunham foundation is the thinness of the septum and the depth and weight of cell-walls, and it is not liable to sag if of proper weight, nor twist if properly fastened in the frame; 5. Wired foundation has failed to establish its claims to superiority; 6. Bees will readily accept foundation with a wooden base, but for ordinary use in the apiary, unless much cheaper in price, it will not be preferred; 7. Avoid using soap and all other obnoxious preparations in making foundation; many pounds of good wax have been condemned as adulterated, because of the wash used on the rollers.

We can hardly appreciate the waste of time and genius in manufacturing so many styles of foundation, evidently only to get up "something new." The foundation destined to become the favorite "stand-by" with bee-keepers, will be that which is soonest accepted and worked by bees in ordinary usage, and which can be made and sold for the least money.

That Section Controversy.—In a letter dated July 9 Messrs. Lewis & Parks deny that they had applied for a patent on the section. We asked them, how then it came into interference? Just as we were going to press with the last few pages of the JOURNAL, we received the following answer:

Watertown, Wis., July 27, 1880.

We came into interference with Forncrook under rule 94 of Rules and Practice of United States Patent Office. When we applied for a patent on our machine, we sent samples of the work by it. And this, showing the same thing without applying for it, put us into interference. So again we state positively that our original application was on the machine and not on the section. We did not suppose the section patentable, nor do we yet believe it is. The Examiner of Interferences has declared it to be unpatentable, and because the Primary Examiner considers it patentable is no reason why the Commissioner does. *Mind you, a patent* has not been issued on said section yet; hence, it is not patented, and that "ad" has a tendency to claim the same patented, and such a deception is dangerous. LEWIS & PARKS.

Mr. Forncrook has made a statement of his side of the case on page 387, and, as we desire to do "exact justice" to all, we omit other matter "set up" for this space, and give it to Lewis & Parks' statement. Both sides having now presented their side of the case, let the law decide, and our readers form their own conclusions.

☞ A correspondent asks if Shuck's feeder can be used inside the hive. It is intended to be used at the entrance, allowing the bees from the inside to feed without interference from those outside, but it can also be used on the top of the frames by covering the open side with a small piece of board, or by binding two feeders together and placing them on the top of the frames, under the quilt or over a hole in it or a corner turned up. If a honey board is used, place them, thus tied together, over the slot in it.

☞ We have received a pamphlet descriptive of Jordan's White Sulphur Springs in Frederick Co., Va., and find it very interesting. Mr. Jordan is a progressive as well as an extensive bee-keeper, and visitors at the Springs find his table furnished with the nicest of Virginian honey. Of course he is an enthusiast. He has sent us a large photo of himself, framed, and it hangs on the wall of our editorial room. We should be delighted to accept Col. Jordan's invitation to visit the Springs, but we cannot afford it. Our European trip of last year cost us so much that we cannot afford any luxury this season.

La Crosse, Wis., July 19, 1880.

As there are a large number of bee-keepers here, we have decided to ask the bee-keepers of the surrounding country to meet in convention and perfect an organization on the 14th day of September, 1880. Several bee-keepers have decided to prepare essays for the occasion. In order to make the convention successful and harmonious it will take the entire strength of the bee-keepers here. I therefore request every one to help. L. H. PAMMEL, JR.

"Oh! What Shall the Harvest Be?"

Europe is again disappointed with the prospect for produce and grain. Everywhere complaints are heard of not over half of an average yield. Here in America we rejoice over a splendid crop of wheat, oats, barley, potatoes, and all kinds of fruit; corn promising a large yield. But in the midst of these general rejoicings, bee-keepers mourn over the prospect for honey. In many localities the bare ground of last winter allowed the frost to kill the white clover, and, of course there is no honey from it; in others, basswood yielded no honey. In the absence of these two principal sources, only those having the excellent melilot and alsike clovers, or some other honey-producing plants to depend on, have obtained even a moderate honey harvest so far.

In this issue of the JOURNAL is published 20 reports from 11 different States. From these, and private letters from other portions of the United States, we conclude that the crop so far will not exceed one-third of the average. Minnesota and Tennessee boast of the largest yield for many years; New York, Missouri, California and Canada have but one-half; Wisconsin and Michigan one-third, and Kansas and Arkansas a very small crop. In Illinois, Indiana and Georgia there is but very little or no surplus. Still in some localities, even in the latter States, an average yield is reported. One bee-keeper in Wisconsin has extracted 10,000 lbs. of basswood honey. By the time the fall crop is obtained, for which now there is an excellent prospect, we may have a fairly average product for the year 1880.

We notice by English papers that Messrs. Thurber, of London, have received the first instalment of California honey, which is of excellent quality. In Liverpool, 1,400 barrels of California and Chilian honey were offered for sale on July 1, and sold at about 10 cents per lb.

As our readers are aware, two important conventions of bee-keepers are to be held in September, at Cincinnati and Chicago. These bodies are expected to deliberate on the product, prices and demand for honey, and determine if possible, upon uniform prices for the entire crop. To do this, it is important that they should have correct figures relative to the size of the product, whether it is one-half, three-fourths, or an average yield. We have, therefore, determined to publish in the BEE JOURNAL for September reports from all honey producers who can and will report the crop which they may have, or reasonably expect to obtain at the close of the harvest. As this matter is for the benefit of every producer, we ask them to sit down, as soon as they read this article, and send us a postal card, stating the relative proportion of their entire yield, both of comb and extracted honey, including what may reasonably be expected from fall flowers, stating the amount of light and dark honey separately.

This will cost each one a *cent*, but for it he will obtain information and advice which will be worth many dollars. Let no one fail to report, and *at once*. Be particular to give your name, postoffice and State.

Cyprian and Syrian Bees.—Mr. D. A. Jones has sent to our Museum samples of Cyprian and Syrian bees, as promised last month. They are put up in bottles of alcohol, and are very fine in appearance. Some have 4 and even 5 yellow bands. With this exception we can see but little difference in *appearance* between them and our lightest-colored Italians. We await with much interest a test in this country of their working qualities, and a specific statement of their superiority, as claimed by our distinguished German bee-culturists—Dathe, Cori, Hroby, Count Kolowrat, etc.—viz.: "prolificness, hardiness and honey-gathering." We thank Mr. Jones for a good photograph of himself, which is placed in our album of bee-culturists.

The National Convention.

Southern bee-keepers are appreciating the location of the next National Convention at Cincinnati, O., and are getting quite enthusiastic over it. It is many years since it was held near enough to tempt their attendance. Now they are more than pleased at the prospect for a grand reunion of American apiarists. It will be a rare treat for many to meet with those with whom they have become quite familiar through their writings in the bee papers. Arrangements are being made for a very interesting programme, which will be presented in next month's BEE JOURNAL. The following letter from Dr. J. P. H. Brown, making suggestions, will be read with interest:

Augusta, Ga., July 5, 1880.

MY DEAR MR. NEWMAN: I notice that it is announced that the next National Convention will be held at Cincinnati Sept. 29, 30, and Oct. 1. Providence permitting I shall be there, and will have a paper to read.

I have been much disgusted at the action taken by the "Northeastern, N. Y., Bee-Keepers' Society," in reference to yourself, and also at their thrusts at the National Convention. It seems to me that every American bee-keeper should feel proud of the existence of a National Society and do everything possible to sustain it. But we are told that there were malcontents in heaven, and of course we must expect them in every secular organization.

My advice to you is to gird on your armor afresh for the fight; panoplied with truth and justice you need not notice the barks of whelp nor puppy.—See that all the deliberations of the Convention are characterized by dignity, harmony and good feeling, and no bee-keeper need fear for its success and permanency as an organization.

A programme of the expected labors of the Convention should be published in time. It should embrace subjects of not only the greatest interest to American bee-keepers, but also of such a nature as to give character to our Society abroad.

An invitation should be extended to all manufacturers of supplies to send articles for exhibition—also to collectors of new varieties of bees and bee-curiosities.

It might be a good idea for you to invite some of your foreign bee-keeping friends to come and meet us in Convention.

Friend Newman, I hope you will not let that small dash of "cold water"—dirty at that—thrown at you by the Northeastern Convention cool your ardor; pay no attention to it, but go on as of yore, sounding the call for the meeting in Cincinnati. Be up and doing "with a heart for any fate." With the kindest regards I remain, very truly yours, J. P. H. BROWN.

Having accepted the responsible position of Chairman of the Executive Committee, nothing will swerve us from our duty, which is to make the next meeting a grand success—desiring then to deliver up our trust to our successor "with pleasure to ourself and honor to the fraternity," feeling assured that the Society is in a more harmonious and prosperous condition than at any period of its history.

We have already especially invited some of the prominent apiarists of Europe, and hope they may favor us with a visit, and now we give a *general* invitation to European apiarists to attend and take part in our deliberations.

Many questions of vital importance will there be fully discussed, and in all probability steps will be taken to make the marketing and production of honey more reliable and uniform.

Mr. C. F. Muth has kindly offered to receive articles for exhibition—taking them to and from the hall free of charge.

We expect *short* but pithy letters from prominent apiarists all over the country, to be read at the Convention and introduce the discussions that may follow. We cannot write to each one, and will here give a general and special invitation to all who desire any subject discussed, to either write a letter introducing the discussion, or to state the subject to be considered, and *send it to us at once*, so that it may be included in the programme to be published next month. *Do not neglect this.*

☞ Dr. N. P. Allen, of Smith's Grove, Ky., offers a special premium, at the Bowling Green fair, for the best display of honey. The doctor is a wide-awake progressive apiarist.

The Foreign Market for Honey.

The following letter from an extensive honey-producer gives his views and *fears:*

For the American Bee Journal

"FRIEND NEWMAN: Your trip to Europe has done the supply dealers and bee papers as well as honey producers in Europe a great and lasting good; the latter you have educated to get more honey in better shape. To us, the producers of America, you have done much harm; for you have made many more producers in Europe, and educated them to get it in better shape, to glut or fill a market that we were relying upon. We had better paid you and kept you at home. D. D. PALMER."

Upon seeing the misrepresentations of our motives and mission to Europe, by a few jealous men, and hearing their fierce denunciations of us for a mission which cost us 4 months' time and over $1,000 in money—while writing a friendly letter to Mr. Hoge, we said to him that we were almost sorry that we went to Europe. This is his reply:

"London, England, July 5, 1880.

"FRIEND NEWMAN: Do you remember what a pleasant time we had together here in London one year ago yesterday, celebrating the 'glorious fourth?' I am a little surprised now to have you write and say you are almost sorry you came.

"There are certain cannibalistic people in the world who devour with relish a missionary. Foreign bee-keepers might find justification in this practice for rudely treating the President of the American Bee-Keepers' Association, if they had desired, who came among them as a missionary, as it were, but I must say it is wholly unprecedented for a few American bee-keepers to desire to 'skin alive' the founder and friend of a mission who so loved the cause that he paid his expenses even to the last cent, out of his own pocket.

"It seems to intelligent bee-keepers here that to belittle the President of the North American Bee-Keepers' Association, is to belittle the body of bee-keepers generally. Of course, you are too much in earnest to be deterred by such treatment, and will keep straight along in the *useful* and *progressive* line you have marked out for the JOURNAL; remembering the reddest apples receive the most knocks, and it is no use to bite a snake because a snake bites you.

"Once, while passing a marble statue I saw a lot of little boys throwing mud at it; soon a shower came and the statue seemed whiter and cleaner than ever, while the boys were spanked for dirtying *themselves*. So will it be with the BEE JOURNAL and these *little* men.

"You might cover Europe with the most approved modern bee-keeping appliances, but you could not prolong our honey seasons. Bee-keeping here can never be pursued as a business, because our honey seasons are of no consequence; so all fears of our competition can be discarded as absurd and ridiculous!

"You here rendered me great assistance in abolishing the unfair prejudice existing about that time in the minds of English consumers against American honey; in fact, it was remarked by many that the whole of your valuable time was devoted to this most imporant desideratum. Time which almost all visitors to this country would have spent in sight seeing, you occupied in counteracting the absurd stories about "stuffed honey combs" launched into this country from America. You deserve and will have great credit for your tireless efforts in this direction.

W. M. HOGE."

We fear both of these letters give us more credit than we deserve. It is true that we found great prejudice existing in Europe against American honey; and in public lectures and in private talk we did all we could to put the matter in its true light. We are thankful to *know* that such foolish prejudices have died out, and that Europe now desires to obtain hundreds of tons of honey from America, which, alas, we fear we shall not be able this year to send them on account of the unpropitiousness of the season. Still the greater the demand, the higher the price will be; that affords some comfort to producers, who would otherwise mourn the shortness of the crop.

☞ By the Italian bee-paper *L'Apicoltore* we notice that the editor of the AMERICAN BEE JOURNAL has been appointed the Society's American correspondent, as well as Honorary Member.

☞ On July 17 a fire occurred in the grocery establishment of H. K. & T. B. Thurber & Co., New York. Loss, $25,000; fully insured.

Does It Pay to Plant for Honey.

This has often been a subject for discussion in conventions, and has been commented upon *pro* and *con* in our bee papers, but is as far from being a settled question as when first promulgated. After the poor yields of the last 2 years, we are confirmed in the opinion that it will not only pay to plant with a special view to the honey product, but, also, that honey will not become a staple, with a fixed and permanent value, and quotable as are other staples, until more attention is given to providing forage for the bees, that the product may not depend wholly upon the favorableness of the season for white clover, basswood, or any other bloom of spontaneous growth. With but a few acres of honey plants, judiciously selected, and proportioned to the extent of the apiary, never would we hear the doleful reports of "bees starving," "feeding to prevent starvation," "starved out in winter;" but, instead, in good seasons for spontaneous bloom, the burden of the song would be one of gladness, and in poor seasons it would be one of content.

We are aware that not all who keep bees have ground enough and to spare to cultivate for bee plants; but in the immediate vicinity of every apiary, and within easy flight of every colony of bees in America, is waste land enough, growing up in unsightly brambles, fennels, burdocks, thistles, rag-weeds, mulleins, etc., which, once seeded with suitable plants, would become a profitable source of revenue, and resound with the merry hum of millions of bees, instead of remaining a slothful reproach to the corporation allowing their growth, and a summer's plague to the neighboring inhabitants. And when we reflect that many of the very best honey plants require but little, or no cultivation, after the seeds are scattered, the reproach for its neglect becomes greater. That some may be found who complain against the occupation of commons with honey plants is no argument against it. The poorest honey plant is more agreeable than sand-burrs; catnip growing never so thickly is preferable to fennels; sweet clover (melilot), growing higher than the fence-tops, is preferable to rag-weeds and wild hemp, and as fragrant as the rose; and even horsemints, motherworts, etc., would be more sightly than most weeds growing spontaneously.

Of course, judgment might be exercised in the selection of seeds for planting. We would not advise the planting of one kind of seeds exclusively, unless well satisfied that kind was the very best adapted to the locality, but rather select a kind which filled a space already existing in the indigenous bloom. If white clover is plentiful, and fall flowers usually bloom profusely, then any of the mints may be profitably scattered to fill the gap. If basswood is the main bloom relied upon, then some of the earlier nectar-yielding trees or plants, such as Judas tree, crab-apple, hawthorn, fruits of all kinds, hoarhound, sage, motherwort, etc., can be planted. Any of the goldenrods, asters, sunflowers, buckwheat, etc., will well repay a little trouble. Mammoth mignonette (*Reseda odorata*) will well repay all trouble and expense incurred in its cultivation for an all-summer yield of honey. It blooms early, continuously, and till late in the season, and being supplied with deep-penetrating and wide-branching roots, stands drought well, and is not injured by frequent rains.

But whether white clover is plenty or scarce; whether you are located in a basswood grove or miles from one; whether beautiful goldenrods and asters surround you or are far remote, by all means plant the barren, waste places with Bokhara or sweet clover (*Melilotus alba*). Its white, modest bloom gladdens the eye in June, and the sweet fragrance of its flowers lingers till frost destroys it. If your soil is sandy, the sweet clover will thrive upon it; if the soil is heavy, it is suited to this splendid

plant; if the season be wet, sweet clover will blossom and grow and grow and blossom, and if dry, its bountiful and continuous yield of honey will well repay the slight trouble incurred in planting, and your bees be kept busy and happy all the season through. For three seasons have we watched and studied this plant with more than usual interest. In 1878 we noticed our bees flying over the plentiful white clover bloom to reach the sweet clover; in 1879, with the ground white, as if covered with a mantle of fleece, the bees still continued their flight till they reached the street sides and uncultivated spots covered with sweet clover, where the beautiful, yellow emblems of industry reveled amid the profuse

Melilot Clover.

sweets, and gathered their winter stores. This season, though we may now and then observe a solitary bee on white clover, when a clump or thicket of sweet clover is observed it seems fairly animated with the bees in their eager quest for nectar. And it is no disparagement to white clover honey to say that honey from sweet clover is in every quality its equal, and perhaps in taste its superior. We do not believe there is a more hardy, reliable or better honey plant than sweet clover, for all climates and localities; and we think after a trial for three seasons the most skeptical will admit *it does pay to plant for honey.*

Recipe for Candy.—Prof. Hasbrouck, in the *Bee-Keepers' Magazine*, gives the following recipe for candy with which to provision queen cages:

"Take a quantity of white sugar and add ¼ as much boiling water by measure. Heat over a brisk fire stirring till it boils about a minute. Remove it from the fire and set the dish into a basin of cold water, and stir briskly until it begins to get white and creamy with fine crystals. Now quickly pour into the cages. If it does not crystallize by stirring, there is too much water in it, and you will be obliged to put it back on the stove and boil it another minute and try it again. The point is to leave just as much water in it as possible, so that the grains may be fine and soft.

"This is the kind of candy put into chocolate creams, which remain soft indefinitely. Bees will live on it for weeks without water, longer than on honey, as I have found by actual trial. With this candy you may put a bottle of water into the cage, and you will find that it will not be taken by the bees."

Adulterations with Glucose. — The Chicago *Inter Ocean* says that the sugar refiners in New York are making loud complaint at the glucose adulterations of the article, and declare that it is slowly pushing the better qualities of pure yellow sugar out of the market. The debased product is sold, it appears, under the representation that the discovery of a new process of refining has enabled the manufacturers to undersell an article refined according to the familiar method in use in first-class refineries. Other dealers erase that part of the label which shows that the article is not pure sugar, and bring it into direct competition with the better grades of unadulterated yellow at prices at which the latter cannot be offered.

"Nectar, Its Nature, Occurrence and Uses," is the title of a pamphlet of 30 pages, by Prof. Wm. Trelease, Washington, D. C. It is an extract from the "Report on Cotton Insects," by J. Henry Comstock, Entomologist to the United States Department of Agriculture. We acknowledge the receipt of a copy of the author's edition, with thanks. It is very interesting.

Austro-German Congress.—The 25th annual meeting of the German and Austrian bee-keepers will be held at Cologne, on the Rhine, Sept. 6-9, 1880.

This is the largest and most influential association of bee-keepers in continental Europe, and its Report of Proceeding is copied by all the continental bee papers. We attended this Congress last year, and there met some of Europe's most noted bee culturists. Each night we wrote out a report of the proceedings and sent it on to the AMERICAN BEE JOURNAL, and we had the honor to publish the first report. Even European bee editors who were not present admit that our enterprise gave them the first inkling of the doings of that celebrated "Bee Congress." The AMERICAN BEE JOURNAL was received in Europe a full month before the bee papers of Germany gave even the least report of its sessions, or of its magnificent display of bees and implements for the apiary. The following from the December number of the *Bulletin D' Apiculteur*, published by Mons. Ed. Bertrand, at Nyon, Switzerland, gives America the credit for enterprise in this particular:

> The Honorable Representative and President of the North American Bee-Keepers' Association, Mr. Newman, for the purpose of fulfilling his mission conscientiously in Europe, has made an energetic trip—a real "forced march." Starting from Chicago on the 14th of June, he returned on the 9th of October. In the meantime he visited England, Scotland, Wales, France, Alsace, Switzerland, the northern and southern parts of Italy, Munich, Vienna, Prague, Dresden, Berlin, Cologne, Brussels, etc., visiting bee and honey exhibitions, meeting with prominent apiarists and committees of bee societies. On his way over the ocean he met with two accidents, endangering the ship and lives of the passengers.
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> The full description of his journey has appeared in the October number of the AMERICAN BEE JOURNAL, by which paper and *L'Apicotore*, of Milan, we have received the first particulars of the Austro-German Congress at Prague—a month earlier than the German bee-papers began to speak of that great meeting. Truly, the Americans know the value of time!
>
> The opinion which Mr. Newman expressed concerning apiarists in Switzerland is very favorable. Concerning the meeting of the Association in Lausanne he says: "The Swiss are certainly not behind any other country in respect to the culture of bees." He is a good judge, and his opinion should encourage us to persevere and to increase our efforts for success in that line.
>
> As we had the honor of entertaining Mr. Newman for five days, we improved the occasion by informing ourselves well concerning the points and methods of specialist bee-keepers in America, which the books do not mention. We also obtained many points and references which we shall publish in the *Bulletin* as occasion may present. We sometimes feared we might be troublesome with our many questions, but our visitor was kind and agreeable, and was always ready to give us all the information that we desired.

Localities for Apiaries in the South.—The most suitable localities for apiaries are within reach of the watercourses, where usually abounds an abundance of natural forage. An apiary may be well located as regards every natural advantage, and still there may be a failure in some seasons of a honey crop. The abundance of the honey secretion by the nectaries of the flower, is dependent upon certain favorable conditions, which are controlled pretty much by the same laws that govern the growth and maturity of many farm crops. When the farmer sows his grain, or plants his potatoes, corn or cotton, he has no positive assurance that he will reap a paying crop. Unless those elements, over which he has no control, are propititious, his most skillful tillage will prove of no avail. But it is very rarely in one season that all crops prove a failure. If one meets disaster, another may yield abundantly and be profitable. There are not many places where it would be prudent and wise to settle down and depend wholly upon bee-keeping for a living. But this branch of industry, in connection with others, such as gardening, fruit culture, farming, poultry, dairy, etc., will go a great way towards making an excellent support; and I know of no portion of the United States better adapted to the successful prosecution of the above-named pursuits than the South.—*Planters' Journal.*

The Extractor.—As the honey season slacks off, the extractor must not be used too freely. Many have very much injured their bees by extracting too freely in or just before a drouth of honey. One who uses the extractor must be prepared to feed if they need it in the summer, or to furnish winter supplies rapidly if much fall honey is extracted. Judiciously used the extractor is a great benefit, but in careless hands it proves the death of many colonies by starvation.—*Indiana Farmer.*

Death of Mr. John Hunter.

We learn with much regret of the death of one of England's most enterprising and enthusiastic apiarists—Mr. John Hunter, of Ealing, near London.

While in England last summer we had several very interesting interviews with Mr. Hunter, and he formed one of a group of noted apiarists who were present at the banquet given by T. W. Cowan, Esq., at Horsham, Essex. A photograph of this group is framed and hangs in the Editorial room of the AMERICAN BEE JOURNAL. We present our readers with an engraving of Mr. Hunter, which is copied from a photograph sent to us by him last May in exchange for ours.

The late John Hunter.

The following article from the *British Bee Journal* for July will give our readers an idea of the life and labors of our deceased friend:

Death of Mr. John Hunter, of England.

We are exceedingly grieved to be called upon to chronicle the decease of our friend and associate, John Hunter, Esq., of Ealing. The presence of Mr. Hunter has been so conspicuous in our midst for so many years, that we have no slight difficulty in realizing this sad event; even in this number of the *Journal* it will be seen that he attended two meetings during the past month, and a contribution from his pen will be found in our correspondence columns. The bee-keeping community generally, and the British Bee-Keepers' Association specially, will ever remain deeply indebted to Mr. Hunter for having, in the year 1874, undertaken the onerous duties of the Honorary Secretaryship of that institution, and in that capacity he contributed greatly, by his strenuous exertions, by his indomitable energy, and by his business tact, to render the first show held at the Crystal Palace a success; also, after the resignation of the Secretaryship, for his devoted steadfastness in the performance of his duty as a member of the working committee of the Association; and for his contributions to apiarian literature.

Mr. Hunter was born in London, Dec. 10, 1831. He was the second son of Mr. James Hunter, of Bloomsbury, who was the founder, and for 38 years the Secretary, of the Royal Standard, one of the largest and most successful benefit societies in the kingdom. Mr. John Hunter was one of the originators of the British Bee-Keepers' Association, and his interest in its welfare he retained to the last. He was the author of the "Manual of Bee-Keeping," which has now attained its third edition. He was the writer of the article "Apiary" in the last edition of the "Encyclopædia Britannica; also, in 1875, of a pamphlet entitled "The Cottage Frame Hive," specially written for the use of cottagers. He was for several years on the staff of the *Journal of Horticulture*, and also on that of the *Gardeners' Chronicle*, and was a constant correspondent to both British and American apicultural magazines. Many contributions from his pen will be found in the earlier volumes of the *Journal*. The paper which he read at the Conversazione on April 14, on "The Future of British Bee-Keeping," will be fresh in the recollection of our readers. Mr. Hunter was selected by the Committee of the British Bee-Keepers' Association, together with Mr. Cheshire, to compile the "Handbook for Cottagers."

At the South Kensington Show in 1878 Mr. Hunter was awarded a silver medal for a very fine collection of microscopical objects illustrating the natural history of the honey bee.

He was a member of the Quekett Microscopical Club of London, and also of that in Ealing, and on Oct. 25, 1878, he read a most interesting paper on "The Queen Bee, with Especial Reference to the Fertilization of Her Eggs." This paper was published in the journal of the Quekett Club, and reproduced in our pages. He was also for many years a member of the Entomological Society.

Mr. Hunter's exertions and spirits

were always in excess of his strength. He had been in very delicate health for many years, and succumbed after an attack of pleurisy, culminating in congestion of the lungs, of less than a fortnight's duration, at his residence at Ealing, on Sunday, the 27th June. His death will be a very great loss to the cause of bee-culture and science in general.

Help for Foundation Manufacturers.—Mr. F. W. Chapman, of Morrison, Ill., has sent us a device for the more rapid manufacture of comb foundation, which is applicable to all the mills in use. It is well known that when the smooth wax sheet is entered between the metal rolls to receive the cell impressions, that on emerging from the other side the machine has to be stopped and the sheet separated from one of the rolls to which it adheres with great tenacity, before the sheet can be completed; and so of all the sheets, causing a great waste of time and patience. Now, Mr. Chapman's appliance does away with all this bother, and has the great merit of being readily applied by any one, and costs next to nothing. Mr. C. does not propose to get the device patented, but offers it to any manufacturer of foundation for a small sum. Mr. Oatman and others, who have sent for and used it, pronounce it just the thing, and wonder why they had not found it out. —*Bee-Keepers' Magazine.*

New Postal Arrangements.—On and after July 1, 1880, under an agreement between the United States and British governments, packets of samples of merchandise may be exchanged in the international mails between the two countries up to 12 inches in length, 8 inches in breadth, 4 inches in depth, and 12 ounces in weight.

☞A young queen will fly out several times if the weather is favorable; if she fails to become fertile in 10 days, she is less inclined to fly out. She generally comes out when from 3 to 6 days old, between 1 and 3 o'clock in the afternoon.

Letter Drawer.

Another Bee-Keeper Gone.

St. Charles, Ill., July 20, 1880.

Mr. W. L. Gordon, of Shreveport, La., died May 29, of chronic diarrhea. Mr. G. was an intelligent and enthusiastic bee-keeper, and, at the time of his death, had 2 apiaries of about 100 colonies each. He was intending to make bee-culture a specialty on quite an extensive scale—being located in one of the best honey districts in the south. He purchased one of his apiaries last spring of Dr. C. R. Carlin, now of Findlay, Ohio, he being compelled to leave the South on account of failing health.

M. M. Baldridge.

One-Third of a Crop of Honey.

Hersey, Mich., July 19, 1880.

The white honey harvest has closed, with about ⅓ of a crop. Bees scarcely made a living through the white clover bloom. Basswood was of short duration, and honey very thin; too much rain.

T. T. Delzell.

District Convention at Chicago.

Byron, Ill., July 14, 1880.

I was pleased to notice the call for a District Convention at Chicago. I think Ogle County will be represented by from 6 to 10 bee-keepers. Please say in the next Bee Journal whether you will exhibit the Cyprian queen and bees at the September Convention at Chicago, and will Mr. D. A. Jones be in attendance. Both Mr. Jones and the Cyprian and Holy bees would be very interesting to those who desire to improve their bees. I do not think that we shall have more than ½ of a full crop of honey this season.

A. Rice.

[We fully expect Mr. Jones, and now have samples of the Cyprian and Holy bees.—Ed.]

Poor Prospect for Honey.

Chebanse, Ill., July 3, 1880.

I have lost 3 colonies by dwindling since my last report. My bees are working but little in boxes. White clover is plenty, but scarcely a bee is to be seen working on it. Basswood is in full bloom. Bees are working moderately well on it. At no time this season has there been more bees flying from my 30 colonies than should from 10. I have had no swarms yet. This is general as far as I can hear. The prospect is poor for honey.

Reuben Havens.

Bees Almost Starved in June.

Hartford, Wis., July 16, 1880.

It has been a very unprofitable year for bees in this vicinity. In June the bees nearly starved, and in July but 8 days have been good. The basswood came 10 days ahead of its time, and it is now gone. I. S. CROWFOOT.

Horse Mint as a Honey Plant.

Kirksville, Mo., July 20, 1880.

I send by mail to-day what must be a fine honey plant, judging from the number of bees working on it—it was literally covered with them. Please give its name and use as a honey plant, and how long does it bloom? Swarms are not numerous this season, but ½ of them go to the woods. We have quite an amount of honey-dew. Bees are storing in the boxes pretty well. The remainder of the season (usually the best) promises fair. F. A. GROVE.

[The branch you sent is one of the mints, and is usually called horse mint. It is an excellent honey plant, and the bloom lasts 3 to 4 weeks.—ED.]

Bee-Catching Spider.

New Lisbon, Wis., June 20, 1880.

I send a bee, a spider and a head of white clover. Upon making my round on the cranberry marsh, this morning, I discovered a honey bee (a rare occurrence) on a clover blossom, but it appeared to be dead. I picked up the head of clover, in order to take a better look at it, when, to my surprise, I saw that this spider had the bee by the neck in such a position that it could not have a chance to use its weapon. It looks so much like the clover that the bee could not have noticed it until it had fastened its mandibles around the head of the bee. It is a curious occurrence to me, and perhaps it would interest some of your readers. I never saw such a spider before, and hope they are exceedingly scarce. Can you tell me about its habits and wants?

H. O. KRUSCHKE.

[The spider was so dried up that I cannot easily give the name. There are several species in the United States that prey on insects which they catch without the use of a web, and not a few are brave enough to attack, and strong and quick enough to subdue the bee. The mimicking the flower serves as well as the web, as thus other insects come into its grasp and power without fear of danger. The *Phymata erosa*, or stinging bug, so mimics the flowers on which it usually rests that it is rarely observed by its victims till they are in its and the arms of death. Such mimicry is doubtless a developed peculiarity in the evolution of such insects, which powerfully aids them in the "struggle for life."—A. J. COOK.]

Vice President for Dakota.

Sioux Falls, Dakota, July 18, 1880.

PRESIDENT NEWMAN: Having disposed of my apiary and engaged in an altogether different line of business, I tender my resignation as Vice President of the National Association for Dakota.

I would recommend the name of Calvin G. Shaw, of Vermillion, to fill the vacancy. It affords me great pleasure to state that an intimate acquaintance with the gentleman, extending through a term of 14 years, warrants me in believing he would make a first class officer, being an active, energetic and progressive bee-keeper, and, if appointed, would, I am confident, prove a "worker." JESSE B. WATSON.

I hereby appoint Mr. Shaw to fill the vacancy, and hope to hear of some effective work in Dakota as the result. The present is just the time when it is necessary to work up Honey Shows.

THOS. G. NEWMAN, *Pres.*

The Smallest Crop of Honey since 1872.

Borodino, N. Y., July 20, 1880.

The white honey harvest is now over, and my crop will be the smallest since 1872. I have taken but 800 lbs. of extracted and 1,200 lbs. of comb honey from 70 colonies in the spring. The comb honey may amount to 2,000 or 2,500 lbs. when I have gone over the hives for the last time, which will be the latter part of this week.

G. M. DOOLITTLE.

Honey Season a Complete Failure.

St. Charles, Ill., July 20, 1880.

The honey season thus far has been a failure here. During June, which usually is our best month for honey, nearly all the bees in this (Kane) County came as near starving as they could and not starve. No white clover to speak of. Basswood was very full of bloom, but it lasted only 4 or 5 days. Since then bees have not made their board. M. M. BALDRIDGE.

Good Fall Crop Expected.

Otsego, Mich., July 19, 1880.

The white clover crop of honey has been poor here, but we have had so much rain that we can almost safely say we shall have a large fall crop of honey. Bees are in fine condition, and we have hope—"verily, we believe"—we shall have an average crop. T. F. BINGHAM.

Thick Foundation Does Not Sag.

Napa, Cal., July 9, 1880.

Our season is now over. Bees are emptying the unfinished sections and filling and capping it in the brood chamber, crowding the brood, and giving work for the extractor, of which I have 2—a Root and an Everett. The latter I like well, it works easy and quick, and a child could operate it. I think an extractor should take the frames as they hang in the hive. I have had several combs break down by being placed on the ends to extract. What will become of the Italians when superseded by the Cyprians? I wish a standard of purity for bees could be laid down. It would save much trouble in ascertaining their purity. This has been a poor season for fertilizing queens. Inclosed I send you samples of foundation made on a Root machine from old and dark combs. I have 400 frames filled this season with thick worker comb foundation, none having sagged a particle, and the hives were not shaded. I have had a frame built solid and filled with eggs in 24 hours. I fail to discover any effect that the color of the wax may have on the color of the bees. I have had some of the brightest yellow Italians from old and black combs. J. D. ENOS.

[When the Cyprian bees have superseded the Italians, will be time enough to inquire what will become of them. Undoubtedly the thickness of your dark foundation has had much to do with the rapidity of the bees working on it, as also in preventing its sagging. We are not among those who think the thinnest foundation is always the cheapest and best in the brood chamber.—ED.]

Only One-Third of a Crop.

Vandalia, Mich., July 14, 1880.

The white honey season is over here, and is only $\frac{1}{3}$ of a crop. I increased by natural swarming 45 to 75, after uniting all small swarms. M. S. Snow's swarm catcher is a success, if you jump around lively. It is really not complete until you have a basket tied to the end of a 25-foot pole. C. F. SMITH, JR.

Best Honey Season in Many Years.

Culleoka, Tenn., July 13, 1880.

Succeeding a good flow of honey from fall plants we had a very mild winter, and bees generally came through in good condition. In May we had a good yield of honey from poplar, which was followed in June by the best yield from linden we have had in several years. On the 30th June, with one machine, we extracted 1,153 lbs. of honey at our home apiary. We would like to know who has had a better yield. No guess work, but honey weighed carefully. With many kind regards.

S. D. MCLEAN & SON.

Not a Pound of Surplus Honey.

Waveland, Ind., July 14, 1880.

The bee business with me this season amounts to nothing, as far as profit is concerned; not a pound of surplus have I had this season. The bees did not crowd the hives, from some cause; they would have a good supply of brood, but for all that they did not increase as they should. I cannot account for it in any other way than that they dwindled unusually fast. I had 1 hive that carried out sick and dying bees up to about the 20th June. They had about 8 frames of brood all the time, which appeared to be all right. Some of the sick bees kept their natural color while others turned dark; the abdomen of some being distended, others were contracted.

ISAAC SHARP.

More About Ants.

Jordan Station, Ont., July 14, 1880.

In the BEE JOURNAL for July I noticed a letter headed "Ants Troublesome in the Apiary," by W. W. Burnett, which were annoying him so much that the apiarist "became nervous," and afterwards despondent, losing all hopes of conquering the ants. I feel it to be my duty, as a bee friend, to give a recipe which my mother-in-law gave me to kill the black ants that have pestered her in the upper garret among her fruits; her preserves were to a certain extent destroyed. All she would do to destroy the ants of any description was to take black molasses and mix some red precipitate and feed the mixture to the ants; bear in mind this is severe poison; put it in divers places where nothing but ants can get at it. It kills them, and the living ants will carry the dead ones to their nest, we suppose to feed the young ants with, which causes them to die also. This will soon destroy the whole nest. So that it is not necessary for the apiarist to become despondent. JOSEPH M. WISMER.

Report of Crop--Two Queens in One Hive.

Carson City, Mich., July 9, 1880.

Bees are at work very industriously, but the rain washed out the honey from the basswood, after the first day's yield. They are working on white clover now, completing the sections of basswood with it. Some are nearly ready to take off. I have about 50 colonies in all. One colony superseded its queen, and both old and young queen remained in the hive about 4 weeks; both were laying a part of the time. I saw them both every few days. O. R. GOODNO.

Lengthening the Cell Walls of Foundation.

Constantine, Mich., July 12, 1880.

Can any one prove that bees use part of the wax foundation for lengthening the cells? I have colored the foundation, and find they let it remain, and add on white wax without using the foundation. I have offered them wax in various ways, on frames, and in thin sheets, and in lumps, etc., but they do not use it. Bees have done very poorly here until the 20th of June; they are now doing better, but have swarmed very little, yet they seem strong, the whole portico of the Langstroth hives being filled with idle bees every warm day. They have no queen cells. Four swarms from 40 hives seems a poor turnout, up to July 12. The July BEE JOURNAL is at hand, and is as good as ever.

W. H. ARMITAGE.

[Bees will sometimes use the wax of foundation for lengthening side walls, and sometimes not. It is a remark, trite but true, "that bees will not do any one thing invariably."—ED.]

Good Prospect for Honey.

Sprout Brook, N. Y., July 1, 1880.

Bees are doing well in this section; getting surplus very nicely.

J. VAN DEUSEN.

Light Crop.

Oketo, Kan., June 28, 1880.

The weather is very dry. My bees are gathering very little honey. The wheat crop is light; perhaps an average of 7 bu. per acre; the corn crop looks poorer than I ever saw it in Kansas. We must have rain soon, if we get any corn. I have 240 acres of land under cultivation, a fine orchard of 500 apple trees, 200 cherry, all commencing to bear; also 5 acres of forest trees. I have my bee hives arranged in the grove near the house where I can give them attention. EDMUND DE LAIR.

Foundation Compared.

Williamsburg, Ind., June 24, 1880.

Bees are not doing very well as yet, but are storing some surplus. I tried the Dunham foundation by the side of the Root, which was lighter than it, but could not see any difference in the two for the same length of time. Both are good. M. G. REYNOLDS.

Milk-Weed and Horse-Mint.

Indianola, Iowa, July 1, 1880.

I send you 2 plants; please name them. The red blooms in June and the white in July. Both yield honey. Linden has been in bloom a week. Bees are storing honey and swarming lively. The quality of the honey is the best that I have tasted in 10 years. Warren is one of the best counties in Iowa for bee-keeping, as well as for agriculture and stock raising. F. A. MILLIKEN.

[The red blossom is a species of milk weed, the white is horse-mint.—ED.]

Catching Swarms.

Wyocena, Wis., June 30, 1880.

As luck would have it, Mr. J. W. Bailey, of Ripon, came with a load of his swarm catchers just in time to catch a portion of a swarm that was coming out, the remainder being in the air, and were about to light high on a tall oak tree. I placed the catcher near the tree, and the bees came down and lit on it. On the outside of the swarm-catcher I afterwards found 3 queens (it being a second swarm), while on the inside there was no queen to be found, thus showing that the catcher is of great use where the apiary is surrounded with tall trees. Bees are not doing very well in this locality. F. N. SPEAR.

Spider Plant.

Big River Mills, Mo., June 29, 1880.

Bees have done well here considering their weak condition in the spring, caused by the drought last summer and the cold wind and rain so prevalent this spring. Spider plant grows abundantly in southeastern Missouri, in neglected fields, and produces honey abundantly for a few hours in the morning. When it is in bloom the air is filled with bees, even before it is light enough to see them. It sometimes grows 4 or 5 feet high with branching top; it seeds largely, but it dies root and branch each year. Mr. O. H. Townsend has our thanks for his article on how to rear good queens; now tell us the component parts of royal jelly, and we may experiment more in this direction.

S. G. HAILE.

Honey Crop an Entire Failure.

Monmouth, Ill., July 12, 1880.

This has been to me the most discouraging bee year I ever experienced. Not a drop of surplus honey, either comb or extracted, and I can find at least 20 colonies in my apiary with not to exceed a quart of honey in all. I lost a good many colonies by feeding crude or unrefined grape sugar the last of the winter, and others direct from spring dwindling. At no time since winter, except a few days in fruit bloom, have colonies been able to make a living unless they were extra strong, and hardly then. The old clover (white) was winter-killed. What we have had is from seed, and it does not appear to contain honey. T. G. McGAW.

Introducing Virgin Queens.

I would like to have some instructions on introducing virgin queens. I have lost about ¾ of my queen cells and young queens so far this season. I am a beginner. S. G. HAILE.

[The introduction of virgin queens is always attended with great risk, and few, if any, of the most experienced bee-keepers have met with uniform success. If your colony has been long queenless, introduce a frame of larvæ and sealed brood, on which is a well-advanced queen-cell, or into which one has been engrafted. If you wish to supersede a queen with a cell, remove her in the evening; 24 hours after, destroy all cells, and insert a ripe cell in the centre comb.—ED.]

Spring Feeding and Honey Crop.

Theilmanton, Minn., July 11, 1880.

On June 16 I had to feed my bees; they were without honey and very weak for want of food up to the 20th; from that day they made their living and increased weight a little up to the 29th, when basswood commenced to bloom. They also started to swarm again—the 19 old colonies that I have at my warehouse increased to 34; I did not have to feed them. I did not get any swarms from the 107 colonies at my home, though the most of them are getting very strong, and nearly all of them have filled their hives. Quite a number have gathered from 20 to 30 lbs. of surplus, and some of the young swarms have filled their hives and 30 lbs. surplus. Basswood has been yielding honey since July 1; the trees are loaded yet, and the bees are very busy to-day, even in the rain showers which we are having. The basswood will probably last another 3 or 4 days; the honey is of the very best quality (very thick). I extracted some yesterday. I have never seen such a flow of basswood honey here before. Some of my young swarms filled the combs which I gave them the first day (about ⅔ of frames contained comb).

C. THEILMANN.

Fertile Workers.

South Stockton, N. Y., July 12, 1880.

I would like to give you my experience in fertile workers. Mr. C. F. Muth in his correction to the report of the Lexington, Ky., Convention, in the July number, speaking of fertile workers, says: "I have never seen one, and do not believe that any one else has." In 1878 I hived a second swarm, and in about a week I looked in and found they were building nothing but drone comb, and this was well filled with eggs, being from 1 to six in a cell. While looking at them I saw a bee backed into a cell up to its wings. I pinched its head, thinking I had found the laying worker, and closed the hive. In a few days I opened it again, and to my surprise I saw and killed 3 more in the same way. Were they all layers? If not, what were they doing? I destroyed them by giving them 3 frames of hatching brood and a queen cell about 10 days old. My neighbor destroyed one, by hiving in a small after swarm. I am very much pleased with the AMERICAN BEE JOURNAL, and wish it success. Bees are now doing well in this locality. Basswood is in full bloom. I have 27 colonies; lost 16 last winter and this spring.

W. H. WAKEMAN.

[These were evidently fertile workers; as they look just like any other bees it is difficult to find them, unless seen in the act of depositing eggs, or discovered by the action of the bees towards them.—ED.]

Bees Working on Red Clover.

Bloomfield, Ind., July 14, 1880.

The honey harvest here has closed. There has been good pasturage, but my bees were transferred so late they did not gather much surplus. Black bees worked on red clover here in 1879 and this summer. In 1879 the drought caused the blossoms to be very small, and they worked on the first crop but not on the second. This summer the blossoms were as large as common, and they work nearly as much as on white clover. JOHN C. GILLILAND.

Crop Report--Appreciates the Journal.

Union Point, Ga., July 5, 1880.

I cannot get along without the AMERICAN BEE JOURNAL. When it comes I am not fit for anything till I have read it through. The honey crop so far is a complete failure. I have obtained only 29 lbs. from 55 colonies. My best wishes for the success of the BEE JOURNAL.

J. F. HART.

Plenty of Bees, but no Honey.

West Liberty, O., July 13, 1880.

My 31 colonies of Italian and hybrid bees will not store enough surplus honey to pay expenses. I never had my hives so full of bees and brood since I have been in the business. There is plenty of white clover, but still they gather no honey. There are bees enough in each hive to make two good colonies, and plenty of room for storing honey. What had I better do? Success to the AMERICAN BEE JOURNAL.

L. Z. LANTZ.

[There is probably very little nectar secreted in the white clover, and they cannot store that which is not to had. Were the brood chambers full, we might suppose they were averse to working in the sections, and recommend a most liberal use of the extractor.—ED.]

Good Prospect for Honey.

Kane, Ill., June 22, 1880.

I prepared all my bees for winter on Oct. 25, 1879, on their summer stands, 16 colonies in all, in Armstrong's centennial hives. I weighed the bees, comb and honey, which weighed per hive, in pounds, respectively: 21, 21, 13, 20, 18, 13, 20, 13, 10, 14, 10, 10, 9, 12, 12, 11. On the same day I crammed clean rags and pieces of carpet between the division boards, and piled on the top of the brood chamber, and I made holes through each comb. In January and February last I fed each of 9 colonies with 4 pounds syrup made of A sugar and soft water with apple vinegar enough to keep the syrup from graining. No. 6 had a 4-year old queen; she died in February. The queen in No. 8 was 1 year old, and died in March, all leaving brood in good condition. April 21, 1880, I overhauled them and took the rags away from each hive; they were all dry and nice, not one speck of mold or damp was found, nor moth. They had plenty of hatching brood. No. 10 contained a beautiful Italian queen I received Aug. 7 of H. Alley. No. 10 weighed 14 lbs. on Oct. 25. I had to move it out of my apiary, for when the weather was cool, the Italians would visit black hives early in the morning and rob them. Rains and frost in time of apple bloom were so numerous that it did little good for the bees; about all the old white clover was killed in the winter. The young clover is very thick; I do not think it will bloom much this season. There is not much linden here; it is in bloom now. The bees are now busily working on the timothy bloom. The hearts-ease (or smart weed) is beginning to bloom. We have plenty of good rains, and that is hurrying the Spanish needle and figwort. The prospects now are that we have a splendid honey harvest in the fall, and my bees are all in good condition, plenty of brood, drones and workers, and yet I have had no swarms this season. The loss of bees in this neighborhood, last year, was about 75 per cent. I am the only one in this neighborhood that had success the past winter, and I am the only subscriber here to the AMERICAN BEE JOURNAL. I read and I heed it. It is good enough for me. Without it I should be in despair; so pay no attention to demagogues. R. M. OSBORN.

Queen Cage--Albino Bees.

Double Pipe Creek, Md., July 5, 1880.

I mail you one of my introducing queen cages. You will notice there are 2 doors in it—the one is filled and covered with candy. All that is necessary is to remove the cover and place the cage on the frames and let the bees eat out the candy and liberate the queen. I have not lost a virgin queen with them yet. I think it is the very thing for beginners. I also put in it a few of my albino worker bees and 2 drones. I will give the origin of them when I have more time. S. VALENTINE.

[The cage is good enough, but it does not conform to the letter of the postal law, not having a "double wire screen." The "albinos" are very "pretty," but we have them just as handsome, and much larger. Perhaps Mr. V. also has *larger* ones.—ED.]

Poor Prospect for Honey.

Clear Point, Ark., June 18, 1880.

Bees wintered well here, but did not swarm any. I wintered 25 colonies, and obtained 3 swarms; 2 of them left for parts unknown. Bees have gathered very little honey so far; they are working on sumac now, with prospect for a little honey. Italians are doing better than the blacks. D. F. KISSINGER.

Correspondence.

For the American Bee Journal.

Hiving Swarms and Various Matters.

G. M. DOOLITTLE.

I see in *Gleanings* for July that A. I. Root thinks it strange that Mr. Willows' swarm of bees should have returned to the parent colony after being placed in a hive containing a frame of brood; as if a frame of unsealed brood was a sure preventive of a swarm leaving a hive wherein it was put. I have every reason to believe that such brood is no prevention at all, although such a course has been recommended through the press for years.

Up to 1871 I had clipped no queens' wings, and had hived my swarms in empty hives. During the spring of 1871 I read of this plan of putting a frame of brood in the hive the bees were to be placed in, to make them stay at all times. Consequently, the first swarm I had (a large one) I placed in a hive containing a frame of brood in all stages. The swarm was hived at 2 p. m., and before 9 o'clock the next morning it came out and decamped for parts unknown, leaving a handful of bees, two small pieces of new comb, and the frame of brood with queen-cells started and eggs laid in them. Then I thought, why do bees swarm except to leave the brood contained in the old hive with queen-cells, so that the bees remaining with the brood could still continue the existence of the old colony. So I had been placing in their new home just what they had swarmed from in their old one, except the queen-cells which they see fit to add, thus placing them in a similar condition to that which they sustained before—they not realizing the difference between one frame or many. If I had filled the hive with empty combs except this one frame the case would have been different, as then it would have been like adding plenty of empty combs as we do in extracting.

I have many times verified the truth of Mr. Quinby's statement, that although the amount of 2,000 cubic inches of comb be placed in a barrel or box of 4 times its size, yet the bees will generally swarm before they will build any new comb; while if the whole space be filled with comb, they will rarely swarm. I have had swarms leave unsealed brood several times since 1871, under similar conditions, yet, as I have clipped all queens' wings since then, I have sustained no loss as regards swarms leaving. However, swarms hived with a frame of brood will generally stay, but this is not an absolute rule. Still, this was not the trouble with Mr. Willows' bees, as he says they were quiet about 15 minutes after being hived, when they came out and returned to the old hive.

This proves that they had no queen with them, for brood will not satisfy bees which swarm with a fertile queen, as they will go back to the old hive to find her as soon as fully aware of her absence.

I once tried letting the old queen go back in the old hive, and putting a virgin queen with the swarm while they were clustered on the limb, after which I hived them; but it would not do. Back they would come to their old hive, leaving my virgin queen clustered in a ball of bees. By rearing queens in nuclei, and after fertile giving them to swarms as above, I have succeeded quite often, but not always.

Seeing I have friend Root's ear, I wish to say a little more. On page 340 same number of *Gleanings*, Novice has much to say about charity for our fellow men, while right on the same page I find these words: "I would burn up the best hive I ever saw or heard of, or give it to the first man who would wheel it away without asking questions, if it did not hold the regular standard Langstroth frame." It is a pity friend Root could not have said so at the time he was sending his "Standard" hives and frames over the country, instead of now saying: "The quicker you throw them away and commence in the beaten track with the rest of the world the better." Does he not know that all these things cost money, and for Prof. Cook and myself to throw away our hives would cost us quite a sacrifice to make up for his lack of charity toward anything but the "standard Langstroth frame?" It was said that Greeley, through the New York *Tribune*, forced the Army of the Potomac on to the battle of Bull Run and defeat, as Greeley, through the *Tribune*, so influenced the minds of the people that President Lincoln was compelled, as it were, to order the army on to this battle. So Novice, through *Gleanings*, has his influence over nearly 5,000 people on the hive question, and if he sees fit to tell these people that the "standard Langstroth frame" is *the* frame, and none other, we who use the Gallup, Quinby and other frames, will try to have much charity for him and those he really forces, through *Gleanings*, to use nothing but the Langstroth frame.

Borodino, N. Y., July, 1880.

From the London Journal of Horticulture.

New Method for Preventing Sagging.

FRANK R. CHESHIRE.

I have already pointed out that the grubs were killed by contact with the metal threads in wired comb foundation, and further observation has shown me that the loss to the bees, if the former are not removed, is far in excess of what I had at first supposed, since eggs are almost certain to be laid pretty quickly after the clearing out of the dead remains, the grubs hatching therefrom dying generally after being fed up to half size or little more. Those who know how greatly profitableness is interfered with by an undue number of drones will perceive the gravity of the evil in this leak of life labor and energy. To get rid of the wires is imperative, and my first efforts took the form of endeavoring to remove from below by pincers; but I was met by two difficulties—one the loss of form to the comb, the other breaking of the wire. Of these I found it impossible to remove more than 1 in 3, and since I believe there is but one kind of wired foundation in use in England* none here are likely to be much more successful in this particular than myself. I had not up to this point placed my foundation in the frames as transatlantic authorities recommend, because I felt that if this were indeed the only plan the utility of wired foundation was disproved *en avance*. In short to give an idea of the involved trouble let me say that boring holes in the top bar opposite to the wires, clearing away the wax to expose about an inch of these, and then drawing them through and getting ready for insertion in the hive, occupied me 21 minutes, a period which practice would not greatly reduce, as thin wires are broken by any rough usage in a moment. After all this labor, waiting until the comb was nicely formed, I met the most complete failure, for all the wires but 4 broke in my attempt to draw them out, and the four which I removed literally crumpled up the comb as you would crumple up a letter for the waste-paper basket. With further trials I met the same results. No wonder Mr. Betsinger at the Northeastern Convention of Bee-Keepers, held last February, said: "A year ago at the National Convention held at New York I offered $50 to any one who would present me with a square foot of foundation on wire that was perfect, but no one has done it."

Without at present making more than a passing reference to the unnaturalness and waste involved in the flat-bottomed cell, a matter which I wish to look at from its mathematical side another time, I am pleased to be able to say that I have already had successes in some experiments I have been trying, which must deliver us, if nothing more, from any necessity for wires or flat mid-ribs.

Glue, as most of us know, can be used successfully in fastening combs. Taking my cue from this, I at first tried some ordinary fine sewing cotton, dipped it in thin glue, placed it on the face of the foundation in perpendicular lines about 1½ inches apart and gently passed the finger along it to bring it into contact with the edges of the incipient cell walls, and when dry placed it in the center of one of my strongest colonies, a position which would certainly have caused half an inch elongation in the sheet if unassisted. The bees worked it beautifully; no sagging occurred, but contrary to my expectation, the bees were unable to attack the glued cotton. They built it into the fronts of the cells near to the base of course. As the comb was half built, pulling out the cottons torn away little of the walls of those cells through which they passed, which the bees in an hour or two repaired perfectly, and we were already altogether ahead of wired foundation, the labor not being one tithe of that involved in drawing out, or rather trying to draw out, the wires, leaving the troublesome fixing into the frame out of view. The cell bases in properly formed foundation are never perpendicular, but the weight of bees and wax is always tending to bring them to this position, hence the sagging; but the cottons acted as a bow string upon the bow, and prevented the points of attachment from receding from each other. The *beau ideal*, it appeared to me, would be reached could we find something which the bees could remove as the comb progressed. To this end I have been and am still experimenting with hair, ravelling, cotton, silk and thread, fixed by gum, glue, wax, shoemakers' wax, and varnish, and have so far succeeded that it is only now necessary to determine which fiber and fixing are uniformly most desirable. Any of these it seems to me, pressed into the comb during its manufacture must fail without the flat bottoms are used, because as its fiber runs to the right and left of the perpendicular in every cell diameter it simply without stretching assumes a straighter line as the comb

*In America some put foundation on the wire after the latter has been stretched in the frame; the two are then pressed together. This form may admit of extraction of wires with greater ease.

drops without in any way sustaining it. I will report further in the future of my experiments; but another plan has given me perfect results, and this I believe, will be very largely adopted.

I soldered 5 pins by their heads to a piece of fine brass wire at intervals of about 1 inch or a little more, and then turned the wire at the end to a right angle, so that the arrangement looked not unlike a tiny rake head with 6 teeth. Half a dozen of these were prepared, and when the foundation (I use that Mr. Raitt supplies—I mention this as it is best known amongst us) had been waxed in the frame and the pins all cut down to about half an inch in length, the turned ends of the wire went over the top bar at regular intervals, and the cut pins were pressed through the foundation, as it stood on the board used in waxing. The whole was lifted, and so firm was it that while the frame was held horizontally the foundation kept its position. It was given as before to a strong colony. When half worked the little rakes were removed, and the fine holes each left were invisible in an examination made half an hour afterwards. The comb is most perfect, no disposition to turn at the corners—the one fault of all foundation I have ever seen—the rakes preventing any movement. I can only now add I shall name these wire arrangements "foundation rakes.

Acton, London, England.

Translated from L'Apicoltore by Chas. Dadant.

Journey to Cyprus and the East.

GUISEPPE FIORINI.

On Thursday, Nov. 13, 1879, at 2 p. m., I bade farewell to my family, and started for Venice, Mestre, Trevisa, Udine, and reached Trieste at 1 a. m. of the following day. In the morning I wrote to my wife, and to Count Barbo, informing him of the journey I had just undertaken. At 12 o'clock punctually the steamer Austria, on which I took passage, raised her anchor and sheered off.

We coasted along Tetra and Dalmatia. It was an uninterrupted succession of small villages and of charming panoramas, and a continual display of all that is beautiful and smiling in nature.

As I had not yet traveled by sea, but from Venice to Chiagga, through the lagoons, I was delighted by so marvellous a sight, which detained me till 5; and, after supper, I returned to my place, where I remained till the night had become so dark that I had to repair to my cabin, where I dreamed of Cyprian bees and bee-hives.

On Sunday we coasted Lissa, where I sent a sad salutation to the valiants of 1866, who died so miserably, but not quite in vain.

On Monday, 17th, at 7 a. m., we reached Corfu, where our anchor was lowered. There the Greeks hastened with fruits, grapes and a great quantity of oranges and woodcocks. I saw very little of the island, for in less than 2 hours the merchandise having been unloaded and boarded, the anchor was raised, and the Austria resumed her journey. On Tuesday forenoon the sea (quiet so far) threatened to become stormy. The storm was foreseen by the seamen, and the preparations began. For some time the height of the waves increased, the wind blowed and the passengers suffered. I was among the most fortunate, yet I had to pay my tribute to the treacherous element. At daybreak on the 19th we passed by the Island of Candia. Then the sea began again to be agitated, and it was stormy till Thursday, the 20th, when we arrived at the port of Alexandria. An Arabian pilot came in his skiff and took possession of and directed the ship. We landed at 9 o'clock.

I have no room here to describe the place and the clothing, but how can I be silent about the feelings of a traveler seeing such a quantity of white dresses, of angular profiles of the proud inhabitants? What a battle of skiffs and steamers! What a forest of commercial ships from every nation! What numbers of workmen! What a strange mixture of voices and languages! What active life, which announces the neighborhood of a great business center—Alexandria! After landing, how not notice such a fantastic aggregation, so different from ours. The palm, the date-trees, the banana.

After the examination of the passports, I reached the land in company with an acquaintance made during the journey. We took a carriage drawn by two Arabian horses, rather small, but which rushed with great speed. Either by the skill of the driver, or by the good training of the horses, they trotted with an admirable gait, and maintained the same speed in the middle of people, baggage, wagons, carriages, etc. At last we reached a hotel in front of the post-office.

After dinner, I inquired if there were any bee-keepers in the city. There were none but in distant villages. Yet, when passing by an umbrella store, I went in to purchase one—a necessary implement in that country—and noticing that the seller spoke French, I made new inquiries and was directed to Pierre

Thierrard, a gardener who lives not far from my hotel, where I would find a few bee hives. I hastened, and found 9 colonies, in large earthern jars, of about 20 litres of capacity (5 gallons), and made similar to the ones in which we put lard, and with their opening below, on a wide board. I took a few of these bees and put them in a small phial of alcohol.

At the office of the Lloyds I was told that the steamers visit Lanarca only every 15 days. This fact was for me a grave *contretemps*, for 8 days in the island of Cyprus were sufficient, since I had already 6 colonies bought and waiting for me. Then remembering the description I had read and heard of Jerusalem and of the Holy Land, and knowing that the far-famed city was but 48 miles distant from Jaffa (point of passage to Lanarca) I determined to spend 8 days in visiting these lands, reserving 8 days for my visit to Cyprus Island.

I therefore left Alexandria and reached Port Said on Sunday, the 22d, at about 8 a. m. Then a pilot came on a small steamer and took the direction of the ship towards the port, where I saw several men-of-war, English, Turkish and of every other nation. On a French steamer, just arrived, was a brother of the Viceroy of Egypt, going to India, who was received with sovereign honors by the Turkish man-of-war, which discharged 21 guns, while a troop of soldiers, well clothed and armed, were ranged on the shore. A two-oared skiff conveyed me in the canal of Suez.

There were in the neighborhood neither bees nor bee-keepers, for bees would perish on such a heap of sand.

At 4 p. m., we left Port Said for the old city of Jaffa, which we reached at 8 a. m. on Sunday, the 23d. This city offers from the sea a splendid sight; but it is deception, for as soon as I entered I found nothing but hovels or huts. The very air seems to be vitiated. The streets are narrow and filthy. Either by my fault, or from the fault of others who were unable to understand me, or refused to understand, it was impossible to find a bee-keeper. Yet I took some bees on the market while they were sucking dates and grapes and put them in alcohol.

The country around Jaffa enjoys a luxuriant vegetation; the gardens are splendid. For 2 miles and more all around are groves of orange, lemon and citron trees. I measured a fruit of the latter kind, which had 25 centimeters of length (about 9 inches). As these orchards never are watered by rain, the inhabitants use hydraulic machines called norias. The water is kept in large basins, stocked with small colored fishes. The orchards, on account of their sandy soil, are small, and are watered in the evening. They are enclosed with hedges of Indian fig trees, which are very close and impenetrable. Continuing my journey through Ramble, I saw a road 2 kilometers long (1¼ miles), and bordered with acacia hedges, which exuded a very sweet odor. What a pasture for bees.

At Ramble I visited the apiary of the Franciscan Fathers. They use earthen hives, about 35 to 40 centimeters long and 18 to 20 wide (1¼ ft.x8½ in.). One of the ends is conic, with a hole to the point for the passage of the bees. The other end is shut up with a disc of stone corked with dirt. They take out the honey from this part. The sides are placed horizontally, and the apiary faces the east. From this apiary I took also a few bees to put in alcohol.

I remained at Ramble over night, and started for Jerusalem in a carriage. But I cannot advise any one to use such a conveyance, for it is much less safe than the saddle. In these countries the roads are impassable, rocky and very steep; the carriages not very solid; the horses are good, it is true, but very poorly harnessed by their owners, who generally are Prussian.

Like every city belonging to Turkey, Jerusalem shows to the traveler a gloomy spectacle. It is no more the city sung of by the Prophets; the city, with its 5 hills, is 779 meters high above the sea; it is a confused agglomeration of dwellings, with narrow and ill-paved streets, having no foot-paths.

Around Jerusalem I found 2 bee-keepers, with hives similar to those of the Franciscans of Ramble. These hives faced the south. At the ava marie of Nov. 28 I was on the Mount of Olives, where I collected 3 bees on the flowers of rosemarys.

From Jerusalem I went to Bethlehem. I visited the "Castle of the Cows," so named because the cows of Solomon were kept there by the Baschi-Bazar. In this castle I found 200 hives similar to those of the Franciscans. I saw one of the colonies attacked by hornets, which were fighting to rob the contents of the hive. These hornets are the color of coffee, with the point of their abdomen white. The hives were turned towards the south and west. I took also there a few bees for my phial of alcohol.

From the "Castle of the Cows" I went to St. John in the mountain. There I saw an apiary of about 50 colonies, with hives of the same material, shape and capacity as the others.

On Monday, Dec. 1, I returned from Jerusalem to Jaffa, and took passage on the steamer Oreste. At 4 o'clock I left for Beyrout, and reached the latter port at 9 a. m. the following day. I left the ship for the lovely Beyrout to take a little rest and see as much as possible of a city very little more civilized than Jaffa.

I was unable to find bee-keepers around the city, yet I gathered a few bees on the fruits of the market. Then I repaired to the office of the English Consul, and gave 24 lire ($5) for my passage to Lanarca, where I arrived at 7 on the morning of Dec. 3.

Cyprus Island contains about 4,200 square miles and 240,000 inhabitants, centered in 4 cities—Lanarca, Nicoda (capital, with 24,000 inhabitants), Limassol and Famagosta. There are also about 600 villages. The English are improving the island. They have enlarged the fort, constructed a road from Lanarca to Nicosia, and work now to connect Lanarca to Limassol by a carriage road.

The farms have already doubled in price, but the taxes are also doubled, and the cost of living has greatly increased. The land is very fertile. The wheat in the watered spots gives 30 seeds for one, and the barley 50. The caroube is one of the best producers of the land. The area of cultivated land is but 1-7 of the total superfices. Several kinds of reptiles crawl in the fields—among them is the phalarginni; the reapers during harvest attach small bells to their feet in order to frighten these pests.

Lanarca, situated at about a kilometer from the sea, is a poor city of 12,000 inhabitants. With the exception of a few new buildings, the postoffice, a few hotels, the houses are made with sun-dried earth built with dirt. The roofs of dirt are supported by beams; they are about level, so that rain can easily run through. Our Italian Consul told me that when it rains the inhabitants use umbrellas in the houses. These poor hovels are but 1 story high. Two years ago, during winter, 200 of these hovels gave way in Lanarca.

After a visit to the postoffice, where the longing for news from my family directed me first, I hastened to see the colonies that I had ordered to be bought for me last October. I saw the 6 colonies, and cannot tell the pleasure I experienced. The hives are cylindrical and made with earth 2 centimeters thick, with a border outside of both the apertures, 60 or 65 centimeters long, 20 to 22 wide; they have 3 projections inside to receive a disc of soft stone, which closes the aperture. In one of the stones a small hole is made for the entrance of the bees.

There is in the Island another kind of earthern hive, cylindrical also, with crossed sticks, but they are not very solid. In Cyprus, as well as in Egypt, the hives are placed horizontally, and turned towards the south; but they are far from the houses in open apiaries.

I had no time to spare, and I began to work. I ordered 3 double hives for the transportation, and, of course, I had to overlook their manufacturing. On Friday I began to hunt for colonies (for I intended to bring a good many with me on my reiurn to Italy) with an inhabitant who fluently spoke both Greek and Italian, and a muleteer. We chartered each of us a mule, and went to the village of Avdellero, about 6 leagues from Lanarca. There we visited the owner of an apiary, who, after great difficulties and persistent prayers of the muleteer, consented to show me 2 of his numerous colonies—only 2. I asked the price, and received for answer that he would not sell 1 of his colonies for whatever money I could offer, for the other bees would follow to Europe the colonies sold. Then he gathered some dry cow-dung, put it on some burning charcoal, smoked his hives and shut them up, to prevent the bees from following me. After this first *fiasco*, we repaired to a hovel, that pretended to be a hotel, and, upon a painted table, we were served with some eatables, prepared Turkish fashion, and sugared wine.

As soon as the saddles were again put on the backs of our mules, for I was ready to prosecute my journey in search of colonies, the landlady of the hotel came with a pan of kindled charcoal on which she spread some leaves of the olive tree, and she perfumed our 3 mules, the muleteer, the interpreter, who accepted readily this ceremony; then she neared me, but already ill-disposed by the difficulties of my undertaking, I refused to submit to this curious fumigation.

We went to Athiam. There also I was permitted, as a great favor, to see a bee hive; but there was no question about the price, on account of the same prejudice which pervades all the inhabitants. This colony was also almost exorcised against the charm that my eyes could have communicated to it. It was thoroughly fumigated and shut up immediately. In 3 apiaries of the same town I saw bees, but to no purpose. The bees were all beautiful, of a light yellow, like those of the colony that I owned already.

Night came, and we had to repair to a hut, where to sleep I had to make a tolerable bed with 2 poor ones. Very early in the morning we proceeded on our apiarian peregrination. I visited 3 other villages, and finally I found 2 bee-keepers who, having but 1 colony each, had nothing to fear from the prejudice. I bought these hives, which the peasants brought me to Lanarca on the following day. In these villages also the mules, the muleteer and the interpreter were carefully fumigated.

But time was going on. Seeing that my trip would not succeed as well as I had anticipated, I decided to be satisfied with the eight colonies that I had, and to return to Lanarca. In order not to lose time, I taught the interpreter the means to rear bees and tend queens and swarms, and I hope that my lessons will suffice to secure a regular and direct importation of Cyprian bees into Europe. Such had been the aim of my voyage in the East.

On my return to Lanarca, I visited our Consul, Mr. Magni. I narrated to him the aim of my journey, and, as he is not only acquainted but related to Count G. Barbo, President of the Central Society of Bee-Keepers of Italy, he proved very courteous, and gave me a copy of a report on the bee culture in Cyprus Island, made to the Italian Government by one of his predecessors. I will copy it for *L'Apicoltore*.*

On Sunday and Monday I made the transfer of my 6 colonies in their double hives prepared for their transportation, and provided with wire cloth. In the comb taken out of the 6 hives I found but a small piece of drone comb, not larger than 4 inches square; all the other was worker comb, and all the cells were perfectly regular, not of various shapes as we are accustomed to find in our Italian hives. The cells have exactly the same diameter as the Italian.

The bees are beautiful, orange-yellow, they seem a little smaller than the Italians. They are peaceful, docile, as I have observed during the transferring, for I did not get a single sting, although I worked during the cold hours of the day. The thermometer at that time did not exceed 15° cent. (58° Fahr.) in the room where I made the transfer. I saw all the queens of my hives; they are beautiful yellow, of about the size of our Italians. I noticed that most of the combs were built across the entrance, what we call warm combs.

There were no sticks inside the hives to support the combs. One of these hives was made with interwoven sprigs coated with clay. The inside was well polished and painted with a kind of white varnish. This paint helps the taking out of the comb, for by putting a knife between the combs and the hive the varnish is broken loose and the comb may be taken out whole. Such hives are unfit for transportation, for the combs are not enough fastened to the sides. Besides these hives are nearly as heavy as if they were made of stone. The hives made with earth are pretty-well made and light, but too brittle; so much so, indeed, that, having introduced my knife as a lever between the hive and its disk to take it out, I broke 2 of these hives which had a little resisted my pressure. They were both the largest of the 6 that I transferred. All the hives that I saw in the island were similar to one or the other of these kinds.

On Monday evening I shut up the 6 colonies transferred and the two others of earthenware, and on Tuesday morning I took passage on the boat Ceres, with my hives well packed up. But I cannot say how much care and attention were indispensable to prevent the squalls from agitating them. I left Lanarca with spring-like weather, the thermometer showing 12° Cent. above zero (54 Fahr.), to arrive in Italy in full winter, and what winter! I went through Rhodes and arrived at Smyrna on the 12th. This city has been embellished by the French, and furnished with a railroad which follows the shore, and on which are also tramways. I saw Syra, a pretty Greek city, which is built around a mountain. I visited Corfu, a pretty and agreeable city, where we were compelled to stay on account of a squall which was too powerful for our helix, and tossed us to and fro for a whole night. From Syra to Trieste we traveled at the rate of 26 kilometers an hour (about 16 miles), and reached this last city on Thursday at 3 p. m. I arrived at Venice on the next day, and my colonies were there transferred for the last and 8th time. But these dangerous operations were not the worst of the perils to which the poor bees were exposed. The cold would completely kill all the aim and product of my journey and of my fatigue. Just think of bees leaving Cyprus with 12° Cent. above zero (54° Fahr.) while, on my arrival at Monselice, Dec. 12, I found 10° Cent. under zero (13° Fahr.).

On my return from Cyprus I did not gather bees, for I did not visit any apiary, thinking such work of no purpose, since the bees that are found on the way were already described by Mr. Ed. Cori, of Brux, in Bohemia, and pub-

*I will translate it for the next number of the AMERICAN BEE JOURNAL. C. D.

lished in the *Bienen Zeitung* and in the *Journal of L'Apiculteur* by Mr. Hamet.

In spite of the extreme rigor of the season, and through my opportune and constant cares, the colonies are now in good condition. I have had the pleasure of overcoming this last and grave difficulty, and I hope that my journey in the East will prove useful to our national industry. While the crossing of the races are always to be advised to increase their vigor, no doubt the Italian bees will increase in beauty and quality. Such are the accomplishments that I have found in that new kind which I was the first to import directly into Italy.

Monselice, Jan. 9, 1880.

For the American Bee Journal.

Comb Foundation Made on Wood.

CHAS. F. ECHARD.

Two years ago I invented what I call "Board Foundation," and have manufactured and used it ever since with the most complete success. I showed my invention to a few friends, but on the whole did not make much noise about it, because I intended to take out a patent on it as soon as I had thoroughly tested it. This was now done, and I was just about to apply for a patent when I was startled by seeing Mr. Jones' letter in the JOURNAL and in the *Bee-Keepers' Magazine*, about Mr. Abbott's wooden foundation.

My first thought was that, of course, my expectations were now all fudge. The next day (yesterday) I took down to Mr. A. J. King a comb 2 years old completely filled with brood, nearly all sealed, and some of it just hatching, 1 comb just drawn out, and 1 blank pannel of the foundation as I manufacture it.

He was exceedingly pleased with it; thought it a much better thing than Mr. Abbott's. I also take the liberty to send you to-day by express 1 drawn out and 1 blank pannel of the foundation for your examination, and respectfully solicit your comments in the JOURNAL.

Besides being absolutely proof against breaking down by rough handling or excessive heat, this board foundation is invaluable for queen rearing. To this end I cut it in narrow strips, say 1 inch wide, and tack these on thin strips of wood so as to form something like ladders, which will just fit inside my frames. The spaces between the strips of foundation I make about $\frac{1}{8}$ inch more than the width of the strips, taking care that commencing with a strip at the top of the frame I have a space at the foot.

Now putting 2 such ladders together, 1 of them upside down, and the strips facing each other, they will fill the frame like a solid pannel of foundation with only narrow sides in it, 1 inch apart. The frame so prepared I put in the hive from whose queen I wish to breed, leave it there until drawn out and filled with eggs, then take it out, separate the ladders by running a thin knife through the comb, following the slides, and give them to queenless colonies. In this way I get great numbers of queen cells in the best possible shape for separation, without wasting any comb.

Woodside, L. I., N. Y., July 7, 1880.

[All the difference we notice between this and the foundation forwarded by Mr. Jones, is that these cells are lozenge-shaped, as in the ordinary Root comb foundation, while Mr. Abbott's has the flat-bottomed cells, like the Van Deusen foundation. Our experiments with wood-base foundation are reported in the Editorial columns.—ED.]

For the American Bee Journal.

A Cure for the Weevil.

LYNN BONHAM.

I notice in your last issue an inquiry from R. R. Stukesberry, with a very interesting reply by Prof. Cook. Prof. Cook suggests the use of the mallet and sheet as a means of destroying the weevil on the apple tree. I have tried this method thoroughly in the case of curculio, but without satisfaction. Where a person has a large number of trees it is tedious and to me very unsatisfactory, as I never had a quart of plums mature after its use. This year I tried a new plan. I procured some coal gas tar. It can be obtained at any of the gas works at small cost. I then placed some live coals in an old tin pan, and on these coals laid some corn cobs dipped in the tar; this made a dense smoke, and as it rose and passed through the branches of the tree I could see the curculio leaving by the quantity. I have repeated this treatment once a week during the summer, and the tree is now loaded with fine plums. I have another tree near it that was not treated in this way, and it is destitute of plums, all having fallen off. I should suggest that the gentleman try the mallet and sheet as Prof. Cook recommends, and should be pleased to have him try the coal tar

smoke, and let us know the results of both methods. I do not know that the tar smoke will drive off the weevil, but I do know that it is destructive to animal life, and think that it would likely drive away the weevil from the apple trees as well as it does the curculio from the plum trees.

Oxford, O., July 9, 1880.

For the American Bee Journal.

Do Bees Injure Fruit?

FRANK FLINT.

At the recent meeting of the South Barbara County, Cal., Bee-Keepers' Association, the subject of fruit-growers *vs.* bee-keepers was discussed, together with the probable fight that will take place between the two at the next meeting of our State Legislature, and it was voted that the Secretary request the editors of the leading bee papers of the country to publish any articles bearing upon the subject of the destruction of fruit by bees.

Will you kindly help us by publishing anything that has been or can be written on the above subject? Very truly yours, FRANK FLINT, *Sec.*

[Some time since this subject was thoroughly discussed in the BEE JOURNAL. We now append an article from the Lancaster, Pa., *Farmer*, which was called out by the fruit-growers threateng to destroy the bees—poisoning, trapping, and declaring a war of extermination generally against them.—ED.]

Do Bees Destroy Fruit?

"As regularly as the autumn comes around we are treated with long accounts of the depredations committed by that industrious honey-gatherer—the bee. The charges brought against them are not only many, but as serious as they are numerous. Nine times out of ten these charges are brought by persons incapable of pronouncing an opinion, but who swell the hearsay cry of denunciation merely because it is popular, or in consequence of some unreliable information receeived at second hand. The result of all this is, that the poor bees have a hard time of it. It is to relieve them from at least one, and that the most serious, of all the accusations against them, that we write this article.

"No opinion seems to be more generally prevalent than that bees tear open the outer skins of grapes, plums, peaches, and other fruits for the purpose of feasting on the sweet juices within. Because they are found on these fruits in the act of committing a trespass, they are condemned without a hearing or any consideration whatever. It is most commonly said they sting the fruit. This is the result of sheer ignorance. Neither the bee nor any other insect employs its sting for such purposes; they have them for other uses, as a means of defense against enemies, and use them solely as nature designed that they should. It is as impossible for a bee to sting open a grape as it is for it to open a walnut or a shellbark by the same process. Its only means to commit the deed of which it is accused, is the proboscis with which it is armed, but this, although perhaps capable of tearing open skins of ripe fruit, is never used for that purpose, its functions, like those of the sting, being far different, and confined exclusively to the ends designed by nature.

"Although the charges are based mainly on the fact that at this season large numbers of bees are seen on the grapes on our vines, busily employed in helping themselves to the palatable juices, yet we assert very positively that none of the persons who bring this charge of stinging the grapes have ever seen the insects depredating on a sound grape or attempting to tear one open. They always select those already injured, and never perpetrate an original injury. A rainy spell followed by warm weather very frequently causes grapes and other fruits to burst, and it is to the fruit thus injured that the slandered bees pay their attentions.

"The results of a close investigation of the question, lasting through a series of days, are: On the grapes of a vine growing in our yard hundreds of bees were literally swarming, their home being in a neighbor's yard, not 20 paces distant. We sat hour after hour watching closely the proceedings of the industrious insects. There was not a single raceme on the whole vine but was visited by dozens of bees, who examined every grape on it in search of a bursted one whose juices were acccessible. After a most careful search, and finding none such, they would immediately leave and continue their search elsewhere, until the berry they desired was found. On all the defective fruit clusters of bees were gathered, but we failed utterly in detecting in a single instance anything like an attempt at trying to tear open a perfect berry; their investigations were hasty but thorough, and when the desired spoil was not found no time was wasted in useless delay. There can be no mistake

about this matter; our observations were careful and prolonged, and must certainly have resulted in detecting the harm complained of had any been done. That none was done we are positively certain, and we feel that these hard workers deserve a good word in return for the odium cast upon them by theorists and careless observers."

Another writer says: "I have several colonies of black bees, and close by several varieties of grapes, and never before this summer did they in large numbers visit the grapes; but this season, when the grapes ripened, the Clintons in particular, being the most perfect, full and large for the kind, burst their skins, many half way round, from some cause unknown to me, so that the air around was filled with the delicious sweet smell of the ripe fruit, which naturally invited the bees to come and regale themselves, and sip the nectar now open to them. Concords near by were not near so perfect this year, and few burst their skins when ripening, and few bees gathered about them. Delawares, nearest to the hives, were also very perfect, but none burst their skins, and no bees visited them. Now, if the bees had cut the grapes open, is it not natural and reasonable that they would have also cut the other and sweeter kinds, as more to their taste, particularly the Delawares?"

For the American Bee Journal.

Comb Foundation on Wood, Etc.

L. MARTIN.

I have been thinking for some time of the wood foundation, but had not as yet perfected a plan for excavating the pointed bottom for the cell. Now cannot a foundation machine be made of material hard enough to indent soft wood, after wiping it dry, in hot wax, thus making a wax-coated wood bottom comb for all brood and extracting purposes? I thought when I first saw your article on "New Inventions in England," on page 312 of the BEE JOURNAL for July, that they had my plan, but they had only begun the job. Now it only remains for some one to finish it.

The Season--Wintering.

My bees are doing fine. You may perhaps recollect I was one of the Jackson Convention members that advocated cellar wintering. I put in 20 colonies and took out 19; 1 hive being left by the bees nearly full of honey, no bees, either dead or alive, remained. I always leave their entrances open, and they had left the hive and joined other colonies, most likely for want of a queen. I have had 26 natural swarms, and nearly all full; I have put the boxes on all, finishing them last Friday. My first swarms have filled their stock hives, and some have gathered 28, 31, 37 and 38½ lbs. of honey—comb and extracted. My surplus is obtained in frames, so I cut out the heaviest, and extract the lightest, then the bees are ready to go right to work again.

Troublesome Ants.

I get the advantage of the ants by taking a 2-inch plank for the platform to put the hive on; drive into it 4 20-d nails for legs; take 1-16 inch sheet lead, make scallop dishes about 3 inches in diameter and 1 inch deep; put them level on some ½ bricks, and fill the dishes with crude petroleum, and set the legs in them; then I am sure of not being troubled by ants.

From the Prairie Farmer.

How to Rear the Best Queens.

MRS. L. HARRISON.

The most important member in a colony is the queen. She should be called the mother-bee, as she is the mother of every bee in a colony—that is, in a normal condition. The workers are females whose ovaries or "egg-bags" are not fully developed; they never mate, and although an occasional one lays, her eggs produce only drones. The value of a colony depends almost entirely upon a queen; if her progeny is industrious, swift in flight, and have tongues of sufficient length to reach the nectar imbedded in blossoms, an astonishing large amount of honey will be gathered during a prosperous season. But if the queen is superannuated, and, like an old hen, lays few eggs, and a majority of them drone eggs, the colony will be scarcely able to make a living, and produce no surplus. It does not pay to keep any queens that are not regular thoroughbreds. Whether there are any bees better than Italians remains to be proven.

In choosing a queen to breed from, whether a native or Italian, let her be the very best of her kind. Her progeny should be industrious and energetic, and able to take care of themselves. The eggs from the selected queen may be utilized in any way for the rearing of queens that is most suitable to the wishes of their owner. If the queen is removed from her colony, they will start queen cells in a few hours. Most apiarists claim that queen cells reared in a full colony are better than when

reared by a few bees, and also that the queen should be started from the egg in lieu of larvæ 3 days old. In order to comply with these conditions, there must not be any larvæ in the hive for the bees to have access to. The combs containing larvæ should all be removed from a colony, and their queen also, when they should be given eggs only from a selected queen. As the bees have only these eggs to care for, they will receive plenty of attention, and large, fully developed queen cells will be the result. If the eggs were all given on one comb, they cannot be utilized as readily as if the eggs had been distributed among several combs. This could be done by cutting the comb containing eggs into strips and joining it on, or inserting it into the combs. If 25 queen cells are built, the first queen that emerges will destroy all the rest, if they are left in the hive. As it takes 16 days from the egg for a queen to hatch, and the age of the eggs are known, we can nearly tell the exact time when a queen will hatch, and the bees also gnaw off a part of the covering of the cell before she emerges. As no queen hatches from a larva under 10 days, about that time is the best for cutting out queen cells. If they are younger they are easily injured. It is much easier rearing queen cells than it is to get them introduced to colonies without getting them destroyed. In our early days of bee-keeping, we used to read, to form a nucleus by taking 2 combs of bees and brood and giving them a sealed queen cell—and we invariably had them destroyed, and the bees would rear queens to suit themselves from the eggs or larvæ they had. If the nucleus has been formed long enough for them to have queen cells of their own, and a cell ready to hatch is given them; it will not be destroyed; or, if their cells are cut out, and another inserted in its place, it will be respected. A frame might be taken from the colony, containing a queen cell upon it and covered with bees and put into a hive, where it would hatch. About the time it hatches a frame containing unsealed larvæ should be given to it, to prevent the bees leaving with their queen on her "wedding excursion."

In rearing queens, forming nuclei, etc., it is much the best way to use a hive of the same size as those in constant use in the apiary, and restrict the size by using division boards; then at any time a comb of honey or brood can be given it, or it can be readily built up into a strong colony by adding frames of hatching brood.

Peoria, Ill.

From the Prairie Farmer.

How to Obtain Purely Mated Queens.

W. M. KELLOGG.

Since the introduction of Italian bees much effort has been put forth in the endeavor to have the young Italian queens mated with pure Italian drones, resort being had to attempts at fertilization in confinement, isolating the queen, rearing colonies on islands and other out-of-the-way places, and a common plan being to dispose of as many of the black queens and drones in the vicinity as possible. Much money and labor have been expended in these directions with not always satisfactory results, and it is out of the reach of a large majority of bee-keepers to obtain purely mated queens in these ways; hence, they have to run their chances by rearing as many pure drones as they can in their own yard. This will go a great ways toward the desired object, but we can still add much more that is within the reach of all bee-keepers. Let us begin back at the start, and see how best to accomplish this.

The time taken to raise a queen from the egg to hatching is 16 days, but they are many times raised from eggs already hatched as workers before the bees take them to raise queens of; hence, some queens are hatched in 11 or 12 days. These young queens usually do not make their fertilizing flight under 5 days old, and we should have had plenty of drones flying from our best Italian colonies by the time these young queens are ready for their bridal trip. Drones and young queens usually fly from 1 to 3 o'clock in the afternoon. Now we want to get the start of these black and hybrid drones if we can, so about 10:30 or 11:30 o'clock in the forenoon we will go to our colonies containing young queens of the right age, and also to our pure Italian colonies from whose drones we wish to breed, take off the caps of the hives, then the quilt or honey board and thoroughly sprinkle each colony with very thin warm honey, or a like mixture of sugar syrup and close the hives at once. In a very few minutes the air will be filled with bees, drones and young queens (if of the right age) rushing out of the hives like a pack of school boys at recess, and making about as much noise, too, the worker bees to hunt around for that inflow of warm honey, thinking perhaps that the flowers have got tired of waiting for the tardy bees, and are bringing it to the hives, roots, plants, honey and all; the drones and young queens hearing the rumpus want to know what it is all about, and

come out to have a "finger in the pie," too, and, as there are but few drones flying at this part of the day, your chances for purely mated queens are ten-fold greater, and, too, with drones reared from the most prolific queens, whose bees are the hardest workers. This plan followed up day after day till all the young queens are mated will well repay all extra trouble in bringing it about.

Oquawka, Ill.

From the Western Agriculturist.

Comb or Extracted Honey, Which?

C. P. DADANT.

The decision of this question depends considerably on the amount of care that a bee-keeper can bestow on his bees, and also on the market that he can reach; but we will try and solve it from a general point of view, and with a consideration of markets in general and also of future prospects.

The main advantage of comb honey is the less amount of time it takes to harvest it, and the greater facility with which it is sold when it is once brought on the market. But there are many drawbacks to this.

Comb honey can never be raised in as large quantities as extracted, from the fact that it takes all the comb away from the bees, and forces them to build up their combs at a time when they should be busy in the flower fields. It takes not only time, but also honey, for bee-keepers are aware that in the production of each pound of wax about 15 lbs. of honey are used. Of course, comb foundation remedies this to a certain extent, but it nevertheless leaves the bees with a great deal of work, since foundation only furnishes the base and material for cells. Extracting, on the other hand, allows the bee-keeper to return all the comb after emptying it, so that the work of building comb is no longer required, and these extracted combs can be used over and over for years.

Moreover, it is only the white and choice comb honey that can be sold to advantage, for if any comb is dark from the presence of pollen, or through having contained brood, or if it is bruised or injured in anyway, it becomes of less value than the honey that could be extracted out of it. The very darkest or ugliest comb will furnish just as nice extracted honey as the very best, and pollen or other impurities will never be found in extracted honey.

There is still another great disadvantage in comb honey, and that is the difficulty of transporting it without breaking. There is nothing more easily injured than this by rough handling, and when choice comb honey is shipped to any distance there usually is considerable loss through leakage. This is to us the greatest stumbling block in the production of comb honey, and we find that even could we get ½ more for comb honey than for extracted the latter would still pay best.

There is now, however, quite a preference on most markets in favor of comb honey. This arises mainly from the fact that the strained honey of old was of very poor quality, being generally made from the residue of the very lowest grades of honey, and pressed or strained out of the comb with a mixture of pollen and often dead bees. The consumers have hardly yet become aware of the great difference between strained and extracted honey. We find in our experience of selling honey that wherever the consumers become acquainted with the fact that extracted honey is as good as the best honey without the wax, they ask for nothing but extracted honey. In Keokuk, where we sold extracted honey for the past 10 years, the price is now about on a level with that of comb honey, and we foresee the day when it will command a better price than comb honey. Our advice therefore is, raise extracted honey in preference to comb. We sold 15,000 lbs. of extracted honey the past season.

Hamilton, Ill.

From the Rural New Yorker.

When and How to Feed Bees.

J. G. BINGHAM.

There are bee-keepers who say: "Better keep no bees than feed them!" There are others who think they have done enough if, once a year, when the time of greatest need comes, they remember these little creatures with a small portion of honey, or sweetened water, or a piece of candy. But there are also some bee-culturists in the world—and, thanks to the spirit of progress, their number is increasing—who feed during the whole year; that is, whenever it may be deemed advisable as a matter of profit. Brimstoning bees, and really robbing them of their honey, and securing large yields in good seasons, cannot be termed scientific bee-culture. On the other hand, wintering bees successfully, and, in order to secure a surplus during poor seasons, such as last year, decreasing the number of colo-

nies without killing any bees, may be said to combine the science and art of cultivating bees. Most novices in apiculture are impelled by a desire to increase the number of their colonies as rapidly as possible. To attain this result, some have recourse to artificial swarming; they divide, 2 and even 3 times, colonies which often are already very weak; but instead of advancing they go backward. Others resort to speculative feeding to stimulate the queen in her laying and to bring about the development of brood in order to obtain a large number of natural swarms. This latter method will produce the desired result, if it is applied with a proper understanding of the subject; and, above all, if it is employed at the proper time.

Feeding may commence in the beginning of May, to bring about early swarming. In movable frame hives, this is done by inserting full cards of capped honey, or, in case these are lacking, lukewarm syrup of the consistency of mucilage—2 parts white sugar and 1 part water brought to a boil, and fed every 3 to 5 days. Bees, like human beings, like warm food better than cold, and when it is prepared in this manner they will more readily accept the sweets offered them.

When syrup is fed, the feeder should be placed at the entrance, and so arranged that the bees enter it readily from the inside of the hive, while outsiders and robbers are excluded. What takes place when bees are fed for the purpose of stimulation? They regard as the product of nature what the hand of man spreads before them; they hasten to leave their habitations and go outside in search of the sweet nectar. All goes well if vernal sunshine and gentle zephyrs favor their excursions; but if the weather is bad, if rigorous winds follow closely upon seductive sunshine, and overtake the rovers in the open field, the poor workers are chilled, the weak colonies rapidly depopulated, and the brood perishes for the lack of care, and finally the colonies succumb. Although so few beekeepers think of feeding during May, June and July, yet such unfavorable weather often occurs that young swarms and nuclei should be looked after—it will be found to pay. During such periods feed as often as every fifth day. If the honey in the hive is not sufficient it is better to feed now. If one tries spring feeding, even on a single colony, he will find it to increase rapidly in numbers, especially if the queen is young and the colony has a fair number of bees to start with.

For the American Bee Journal.

My Method of Introducing Queens.

G. W. DEMAREE.

I presume that as long as no method has been discovered by which queens can be introduced without danger of loss, the subject will continue to be one of much interest to scientific bee-keepers. By practicing any of the methods heretofore published I have failed to introduce queens without some vexatious and occasional loss. Hence I have given the subject much study, and have of late adopted a plan of introducing which has given me much pleasure and satisfaction in performing the heretofore somewhat disagreeable and uncertain task of introducing queens to full colonies of spiteful hybrids, etc.

I employ a cage such as is commonly used to ship queens in by express; except that it is altered so that the sliding door is made to stand in a perpendicular position when the cage is set with the wire cloth down, and projects above the cage about ¾ of an inch. The quilt used to cover the bees while introducing has a hole cut in its center about 5 inches square, and a second quilt is employed much smaller than the first, which has a slit like a button-hole in its center, just large enough to slip over the projecting end of the sliding door of the cage. What has been described above is all the machinery used.

Now let us see how the plan works. I put the queen in the introducing cage—which is provisioned with a phial of new honey—and place it, wire cloth down, in the center of the hole in the quilt, right on the top bars of the frames, and spread my second quilt over the cage, making the projecting end of the sliding door pass through the slit or button-hole in the center, so that it "sticks up" above the covering over the bees high enough to admit of being drawn out by the thumb and finger without moving anything else about the bees. I now close the hive and go about my business. In 24 or 48 hours I open the hive as quietly as possible, and place my thumb on the cage to hold it steady while I draw out the sliding door, thus liberating the queen without exciting the bees in the least; the hive is now closed up gently, and the thing is done. You may now exercise your best judgment as to whether you will look after her and "see that she is received by the bees," or whether you will trust to the instinct of the bees in a state of quietude. I prefer to take the latter risk, if it is any risk at all. Just 5 days ago I liberated a valuable queen in a

colony of hybrids as fierce as a snapping turtle, and to-day I cut a slip from one of their combs containing larvæ of a proper age to rear queens. I claim for this method that it embraces all the good features of all other methods and more, and is free from the objections attending all of them. 1. It enables the apiarist to be his own judge as to when the queen should be liberated. 2. She walks out among the bees when she or the bees are not excited. 3. It prevents the queen from taking wing or "running when introducing. 4. To sum it all up, it is the most natural way, and is attended with less trouble than any other method I have seen in print or heretofore tried.

Christiansburg, Ky.

For the American Bee Journal.

Experiments with Comb Foundation.

JAMES HEDDON.

At different times in every bee-keepers' experience, he has for a time some one of the different branches of his pursuit, particularly, on his mind and nearest his heart. Just now I find myself leaning toward comb foundation.

For six years I run all hive-ward, determined to get almost an automatic hive, and to combine *all* the valuable features in *one* hive. I need not tell you I failed to gain the entire end sought after, but I am well repaid, I consider, in the attainment of a hive that satisfies me. Then five years were devoted to breeding as my main study.

After getting hold of some well made pure foundation and using it in the brood chamber for two years, in strips from 1 to 3 inches wide, for guides on my Langstroth frames, season before last I tried 8 hives with full sheets, and by working with the bees every day, I succeeded in getting 7 of them through all right, with elongated cells, as the 8-inch sheets stretched about 1 inch. The foundation in the other hive, after being nearly all drawn out and left to take care of itself, fell down and caused the ruin of the colony. It did not come loose from the top-bar, but pulled in pieces. No doubt this lot of wax was of a rotten nature. In one hive I placed alternate sheets of foundation made on the Root and Dunham machines respectively. I could see no difference in the sagging or amount of comb drawn from the wax; but, strange enough, the queen laid in every sheet of the Root, skipping every sheet of the Dunham. I was nonplussed, and no doubt that queen was also. A friend gave me light: "Soap suds on the Dunham," said he. After a time all was full of brood.

Why do bee-keepers speak of "sagging" so much? Do they make this word cover all the ground of sagging, warping, kinking, etc.? The sagging is no trouble at all compared with the warping, twisting and kinking of foundation put into frames without wires.

Wired foundation will not sag, but I consider it of little value, for it, too, will twist around and kink up, and give us nearly as much trouble as that not wired. I consider its invention as a standing evidence of a long-felt want, which it does not supply.

Bees will allow us to hedge about and seemingly violate many of their time-honored instincts in many directions, but flattening the bottoms of their cells is more than my bees are willing to put up with.

On the back end of about one-half of my hives containing new swarms the word "Given" is written, and each hive contains 8 combs as straight as if planed, and every cell worker. There is a No. 36 tinned wire running vertically every 2 inches. These wires are plainly visible from either side; eggs can also be seen in these cells containing the wires.

On the other hives can be seen "F.," "R.," "E.," or "A.," they being the initials of the woman whom we hired to press the wires into the foundation, cell by cell, with a pointed instrument made for the purpose. On opening these hives you will find about 1 sheet in 5 fallen down to the bottom bar; a majority of the others $\frac{1}{8}$ to $\frac{1}{4}$ of an inch away from the wires. Many have the wires through the side-walls, and $\frac{1}{8}$ of an inch from the bottom of the cells where the foundation is drawn out. There are eggs on the side opposite the wires, but not in those cells that the wires pass through, on the wired side.

Any system that will not allow one to hive 2 prime swarms on one set of frames with full sheets of foundation, and close the hive for that season, and know that when opened all the combs will be found perfect, is not as good as the one I am using.

Some ninety days ago I received a circular from D. S. Given, Hoopeston, Ill., illustrating and describing a press and die book, for the manufacture of foundation in every shape, but especially recommending it for the making of the same in wired frames. This method and its results were so highly praised that I dared not hope for its attainment in my apiary. I wrote to Mr. Given that he could find a purchaser in

me, if he would sell to me on terms of "no cure, no pay." I then dropped the subject, supposing it forever ended; but along came a letter saying he would accept the proposition in this case, and I might look for a press soon. By-and-by it was received. I had a 9-inch Root machine, but had never made or seen made a sheet of wax or foundation in my life, though I had used it 5 years. I had some 600 lbs. of wax on hand, and concluded to manufacture it into foundation.

Having prepared everything, we commenced dipping wax sheets, and were quite successful; but from want of experience, failed and were twice discouraged in our attempts to make the proper impressions with the Root machine and the Given press. Upon examining some fragments from the latter, we observed that the septum was very thin, while the lines, or side-walls were quite prominent and heavy. This encouraged to try again.

The third time we tried the press we turned out a few poorly-made sheets. This encouraged us. We tried again, and finally "struck a gait," finding ourselves putting in 100 per hour, and turning off frame after frame of just such foundation, on wires, as the one I send you for the BEE JOURNAL Museum. We now have 1,700 of them partly occupied by prime natural swarms. I have never seen foundation drawn out more rapidly than this made on the Given press. I have never seen foundation of the same weight go so far into comb; you can see by the frame of comb sent you, how far the wax was utilized, and we made it about 6½ feet to the lb. The secret is, the wax is nearly all in the line, the base being very thin. We are at present conducting a series of experiments with Given, Dunham and Root foundation in boxes. We have both the old and the new thin Root foundation. Of course this is thin all over, line and all, and does not go far as a comb maker.

I send for the Museum a sample of Given foundation—about 10 feet to the lb.—and you will see that the base is so thin that there is considerable wax in the lines. I notice that in boxes the bees work first on that foundation that has the most line. I have some extra thin base and high side-wall (or line) Dunham foundation that I am testing with the Given. About all the difference that I can see in their comparative merits, is that when drawn out the Given presents the least fish-bone. I have cut several combs that not even an expert can detect. I claim that the value of all foundation consists in its thinness of base and weight of line. The press will make foundation 12 feet to the lb. readily. The sheets do not stick as to the rolls, and we could run off thin foundation for boxes faster on the press than on the roller machine. The reason the wax does not stick to the dies is no doubt because the line is low and heavy, instead of high and sharp. I think this is the best way to have it, as it then works off the machine readily, having a thin base, and the line is all drawn out by the bees. Of course they will draw out all of any line, as they do sometimes, also, though rarely, thin the base or septum.

Wired foundation (not in frames) can be made rapidly on this press. I send you one out of a dozen samples I made. I have had the second generation hatched over these wires, and all came out in perfect order. I saw a young bee emerge from a wired cell. Though it was the second from that cell, the wire was plainly to be seen, and this bee was perfect as far as I could detect with my microscope. Why should it not be, when the wire is down smooth with the surface of the septum on either side and tinned to prevent corroding?

There is not so much difference in the style of all the foundations, as in the methods of applying them successfully in the brood chamber.

I have sold some 15 sets of these foundationed frames to farmers about here, and every one who sees them feels that success is stamped upon them. I believe it is safe to say that 2 days on these sheets puts the colony where 8 days are required without them. This should give us ⅓ more surplus, and I shall charge one dollar more for colonies with the Given foundation than for any others, because they have all worker combs, which are firmly secured in the frames, and are better for extracting from, transporting, etc., and because the combs are straight and uniform. Another feature: of all the swarms we have hived this season, not one has deserted where this foundation was used.

Mr. Betsinger offers $50 for a solid foot of wired foundation with no vacant cells. Would Mr. B. withhold the bonus if there were some cells empty, provided all the wired ones were occupied with brood? By putting a prolific queen and numerous attendants on 4 large combs, his square foot could be quickly produced, provided these wired frames of foundation were made on the Given press. As no truly honest man wants his money without giving him some equivalent, his unaccepted offer proves nothing. Wagers and blows are not proof, nor even arguments, but are used

upon the unthinking as substitutes, when the proof is wanting.

When to Buy a Machine.

This depends upon how much foundation will be required, and at how low a figure it can be purchased. After taking into consideration the capital required to be invested in press, boilers, room, etc., each bee-keeper should be able to decide that for himself. Mr. Nellis thinks 200 colonies warrant the ownership of a mill. At the low jobbing prices of foundation, I think he is about right; but as the press is not more expensive than the roller machines, and as it puts the foundation in the wired frames, too, I think 100 colonies warrants an ownership. Unless bee-keepers can buy foundation at *reasonable* prices, it would pay to purchase a press for 25 colonies.

Many have used foundation more extensively than I. I am writing for the benefit of those who are newer at the business, and know less of this subject, and because it is a luxury to communicate to others what we conceive to be truth.

Here are two facts from my experience book: Drone foundation is in no place as good as worker—bees work it more slowly. The best way to fasten foundation to sections and boxes is by pressing on with a honeyed putty-knife.

I send the accompanying samples to the BEE JOURNAL Museum, to aid in showing what I am writing about. Things *seen* make a more lasting impression than those heard of.

While I feel thankful to all those who have aided in the perfection of foundation and methods of applying it, from tacking it to the top-bar with a stick, up to the Given press, I cannot but feel sorry that the supply field is so full of conscienceless men. Adulterated foundation kept me back 3 years. Do not do it; it is not best for *you*. Do not use soap about its manufacture. Do not send out samples that are better than the goods. Better die a financial failure, than have lived a continual disappointment.

Dowagiac, Mich., July 6, 1880.

[Mr. Heddon's samples came to hand duly and are placed in our museum. They are very fine and well made. The wax is of a bright color, and all the cells of one that has been in the hive are draw out evenly, presenting the same appearance over the wires as elsewhere. The piece of thin (10 square feet to the lb.) is very nice, the base of the cells being exceedingly thin, while the lines of the side walls are thick, placing the wax where it is just ready to be drawn out by the bees. Our experiments with comb foundation are reported in the editorial pages.—ED.]

For the American Bee Journal.

The Queen Duplication Trial.

D. A. PIKE.

After getting the July BEE JOURNAL and seeing Mr. Moon's article on page 320, I sent him the following letter about July 5:

MR. A. F. MOON: If you will look at your proposition in the AMERICAN BEE JOURNAL for September, you will find this sentence, which we think good English: "And still further, we bind ourselves to pay the committee for the trouble of making the test requested." We can understand that in but one way. We have accepted your proposition, as you gave it. If you mean to stand by it, do so; if not, "forever hold your peace," and draw in your flag. D. A. PIKE.

Since that time I have awaited his answer, hoping to find out whether he meant to stand by his proposition or not. I fear that he means to back down from it. Any one who will read the proposition made by Mr. Moon, in the September number of this JOURNAL (page 400), and then turn to his article in the July number (page 320), will see that Mr. Moon is trying to creep away from his proposition, in which nothing is said of the one accepting bearing part of the expenses or of paying anything. He now wishes to bind me to pay $75 in case of failure. I consider that his way to withdraw the original proposition, and shall dismiss the subject.

Smithsburg, Md., July 16, 1880.

For the American Bee Journal.

Absconding Queens.

J. D. HILL.

I noticed a letter in July number of the JOURNAL entitled "Wonderful Instinct of Queen Bees," by R. M. Argo, Lowell, Ky. I have had some experience with queens flying away, but in regard to their returning to the place where they left my experience varies very much from that of Mr. Argo.

The first case I had of this kind was about the 1st of last May, with a black queen. I opened the hive to clip the queen's wing, and, it being a native colony, as usual, I had much difficulty in finding her. I examined all the combs

and decided she was not on them. Then I proceeded to look carefully in the brood chamber, among the bees which run off the combs while lifting them out, and as I was carefully watching for her appearance I caught a glimpse of her as she flew out of the hive and went very high in the air, out of sight. I replaced the combs and left the hive open as long as I dared to, on account of robbing, which is a common occurrence if proper care is not taken in manipulating a hive at this season of the year. But my queen failed to return. In 2 or 3 days I opened this hive again, and found queen cells being constructed quite extensively, which was good proof of their being queenless at that time of year.

The following day, after reading Mr. Argo's letter, I had occasion to open a nucleus which I had used for hatching a queen cell from a very choice Italian queen. The nucleus contained a queen about 3 weeks old, and laying nicely. I opened them about 4 o'clock in the afternoon, intending to cage the queen and introduce her to a full colony. In opening them, I used no smoke, as there were but few bees in the nucleus, and these were very quiet and easy to manipulate as a general rule. I opened the hive with more than usual care, not to excite the bees on account of not using smoke to quiet them. The first frame I took up contained the queen and a few bees. I had hardly lifted the frame from the brood chamber, when the young lady took to her wings and fled for parts unknown. No bees seeming to follow her, I then placed the frame back in in the hive, and stepped back 2 or 3 paces, leaving the hive open as when the queen left, and was as careful as possible to disturb nothing to change the appearance of the hive or its surroundings. I remained there till it began to grow dark and all the bees in the yard stopped flying, being anxious for the return of my absconding queen; which, through some mistake as I suppose, forgot to put in an appearance. This is the second time I have had similar experience of queens flying from the combs, and in each case she failed to return.

I have now arrived at the conclusion that queens (especially in my apiary) have lost their wonderful power of instinct to return to the same place they leave; or that these are exceptions to the general rule. I think, to say the least, a queen with a wing clipped or securely fastened in a cage till the windows and doors in a room can be securely closed, to safely admit of the operation of clipping, would be worth several on the wing that have from any cause been let loose to fly in the open air without a swarm to accompany them. I should be happy to learn through the BEE JOURNAL if others have been so unfortunate as to have similar experience in queens flying away, and still more happy to learn the cause and also the remedy.

I have now about 100 colonies of bees (mostly natives), in the Bristol hive, containing 12 frames 9½x12 inches inside measure.

The season thus far in Vermont, on account of the very dry weather, is the poorest we have seen for many years. Bee-keepers on an average throughout the State will not realize ¼ of their usual honey crop, consequently will not more than be able to supply the home trade.

Rutland, Vt.

[The two cases mentioned are exceptions to the rule. By placing the frame back in the hive, and yourself stepping off 2 or 3 paces, you removed the most prominent objects "marked" by the queen, which had probably quickly and effectively made her observations.–ED.]

For the American Bee Journal.

Where Honey Comes From—No. 5.

WM. TRELEASE.

The glands of the cow-pea described in the June number produce, as was there stated, a sweet secretion readily collected by bees and other insects. In the South bees obtain much honey from the cotton plant, and, as I learn from Prof. A. J. Cook, this is generally believed to come from the flowers. In a certain sense this is true, for although active nectar glands exist on the lower surface of the leaves, their secretion is gathered chiefly by ants, and seldom if ever by bees. But in a constant study of cotton plants for several months, I failed to see a half dozen hive bees *enter* the flowers, to which thousands were seen to fly; yet the flowers are entered by other wasp-like insects, and hence must possess some attraction. An examination shows that there is a very insignificant quantity of nectar within the corolla, which, from attracting only certain classes of insects, may be suspected of possessing a flavor distasteful to other insects. Outside the corolla, however, there are—in all except the early flowers—6 large and active glands; 3 at the base of the calyx, in the sinuses between the 3 large bracts that form the involucre or ruffle, and one on

the outside of each of these bracts at its base. These it is that prove attractive to bees; and, as they secrete and are visited only about the time of blooming, it is very natural that the flowers and not the bracts should be considered the seat of the secretion. These glands are shallow pits lined with a thin-walled and otherwise modified portion of the epidermis, which is the secreting part of the organ; and it is worthy of note that, so far as I know, the active portion of all nectar glands occurring outside the flower, with the single exception of the cow-pea, consists of modified epidermis.

Many species of *Cassia* have nectar glands on the pistoles of their compound leaves. A familiar example is the greater coffee weed (*C. occidentalis*), which has a large globular gland near the base of the pistole, and is much frequented by moths and hymenopterous insects of many sorts, the hive bee being often found among them. Scores of the examples from many genera might be given, but these will suffice to illustrate this class of organs.

The secretion of these glands, and, in fact, any nectar occurring elsewhere than in the flower, is sometimes popularly called honey dew; but, as this name is applied to two other classes of sugary fluid, it would seem preferable always to speak of the honey-like secretion of glandular organs outside the flower as extra-floral nectar. With this limitation, we would understand by honey dew: 1. The sweet secretions from the dorsal tubes of *aphides*, or plant lice, that proves very attractive to ants, with whom its possession is sometimes disputed by bees, and which not infrequently drips upon the leaves of the plant so as to glaze them, as with a varnish. 2. A fluid similar in taste and appearance to the last, and like it attractive to bees and other insects, but produced by the plant, and not the product of glandular organs. The first, as will be seen, is an animal product, and with it we are not here concerned; the second, apparently due to heat and other climatic influences, has been considered as a disease of the plant, but is, perhaps, only a means of ridding the system of surplus saccharine matter, for plants that produce much of this excretion are not usually found to be weaker than those which produce none.

With these brief notices we must end our study of the organs that secrete nectar, but not without the hope that they may stimulate others to observe closely the actions of their bees and the causes of their choice of some plants and rejection of others. In other articles we may consider the good that the plants themselves derive from the production of nectar, and the way in which so abundant a supply of food for insects, and indirectly for men, may have been brought about.

For the American Bee Journal.

Those Egg-Bound Queens.

M. S. SNOW.

Those queens that Mr. H. L. Jeffrey spoke of in the last JOURNAL as being egg-bound are probably young queens that have very lately mated with the male or drone bee, and probably would commence laying in 3 or 4 days, even if he had not removed what he thought to be eggs protruding and dried on, when it was simply the male organs of the drone. Queens becoming old, or showing weakness from any cause, are superseded by young queens; they, of course, are fertilized by the drone, the organs of generation remaining a certain length of time. If Mr. Jeffrey chances to discover another queen as he speaks of, let her entirely alone and see if she does not commence laying in 3 or 4 days. The tested Italian he speaks of was without doubt worried almost to death when she was introduced, and when she commenced to lay, the bees, seeing her weakness, superseded her with a young queen, and if there are no Italian drones in the vicinity, she will be what is termed a hybrid queen. I am rearing Italian queens, and to-day have seen 3 young queens in the condition Mr. J. speaks of.

Osakis, Minn., July 13, 1880.

[Mr. Jeffrey is too much a scientific as well as practical bee-keeper, to commit the foolish blunders attributed to him above. Two seasons ago we lost a valuable queen, and from appearances before and after her death, we incline to think something like that mentioned by Mr. Jeffrey was the cause.—ED.]

For the American Bee Journal.

One-Piece Section Controversy.

JAMES FORNCROOK.

Mr. EDITOR: In the AMERICAN BEE JOURNAL for July you say: "It would be much better to make a plain statement of the facts rather than dispute over technicalities." Now, with your permission, I will state the plain facts in the case: I invented the one-piece

section while I was in the employ of G. B. Lewis, but used none of his time; he had nothing whatever to do with it; in fact, I had it all completed before I showed it to him. This was several months before C. E. Parks came to this town, from Kansas, which was about June 20, 1878. Then, seeing that it was a nice thing, they commenced to talk "patent." On Oct. 1, 1878, the copartnership of Lewis & Parks was formed, and from that time they commenced preparations to obtain a patent. I mistrusted this, and watched their movements closely, until I became satisfied that they intended to get a patent on it, if they could. Some time in the winter or spring of 1879, I wrote to an attorney at Washington to find out if they had made an application for a patent.

He wrote me that he could not find out whether they had or not, and further that he had no right to know, and that it would be a breach of trust for the Commissioner to give any information in regard to the case, whether they had or not, and the only way to find out was to file an application myself, and then, if they had, I would be notified. I did so, and was notified that there was an application there, and then it was put in "Interference," and I proved beyond a doubt that I was the inventor.

Just as soon as they found that they were beaten, they claimed that it was old and not patentable. At the same time they were willing to compromise and let me have the patent if I would give them a shop right. They made this proposition. They have turned over every stone in the field to destroy the patent, and have failed, and now Lewis & Parks are out of the fight, which is now between Mr. Delzell and myself.

The patent was allowed to me as claimed, and was signed by the Examiner, and would have been issued but for Mr. Dalzell's application. They have tried to mislead by saying that it has been declared not patentable by the Examiner. Would the Patent Office put it in "Interference" for more than a year if they had declared it non-patentable?

What I claimed in my advertisement is this, that the patent has been "allowed" to me. I never claimed that it was issued! Lewis & Parks in their letter ask you to write to the Commissioner and you will ascertain officially that there has been no patent issued to any one. We never claimed that it was, but that it has been "allowed," and we can prove it, or anything else that we have said in regard to this case. The only way that I could prevent them from getting a patent on my invention was to do as I have done. Had I not done it they would have prevented me from manufacturing my own invention.

MR. EDITOR: This is as plain a statement of facts as I can make, and I think I am entitled to the privilege of giving it to your readers, as long as I confine myself to facts.

Watertown, Wis., July 17, 1880.

For the American Bee Journal.

Observations about Bees.

PAUL DUNKEN.

The first thing done by a swarm of bees upon taking possession of their new home, is to see that it is free from spiders and other insects which are their enemies. They then cement the surface of their new home with propolis, being especially careful about the top of the hive.

The comb-building is next in order, wax for which is formed in the body of the bee, and exudes in thin scales from the segments or ring-like places observed under the abdomen. In this work each bee in the hive forming the pendulous cluster contributes its share, while others are already scouring the fields in eager search for honey.

As fast as the comb is sufficiently built out, the queen and her attendants, by common consent, take possession of the central and lower portions, in each cell of which she deposits an egg, then passes to the opposite side and repeats the operation. The borders of the comb are appropriated to honey storing. The cells first built are very uniform, and average about 25 to the square inch. The eggs deposited in these cells develop into worker bees. Later on, as the bees emerge from the cells, and the colony becomes more populous, much larger cells are built, and in these the queen deposits eggs which develop into drones or male bees.

When the hive becomes very crowded with bees, so much so that there seems scarcely room for all inside, and the combs are well filled with young bees and honey, an observation of the inside of the hive will reveal the existence of several conical protuberances, not unlike small thimbles, with the apex inclined downward. These are queen cells, and are found sometimes projecting from the edges of the combs and frequently from the centre or face; sometimes singly, and again in groups of 2 or 3. The queen cells are an afterconsideration, and are not built except to supersede a queen with a new one, or

where a colony has become queenless from some cause, or to provide a successor for the parent queen, to insure a continuance of the community after the queen and bees have swarmed out. When a queen cell is far enough advanced in its construction, it is supplied with a worker egg or young larva, and this, with the enlarged cell and a plentiful supply of "royal jelly," developes a queen.

Among the enemies of bees are spiders, wasps, toads, lizzards, woodpeckers, rats, mice, bee-eaters, bears, badgers, and many insect-loving birds. The bravery of these little insects in defending their hives; their sagacity in times of danger; their wisdom in the ordering and governing of their communities of from 20,000 to 50,000 bees which inhabit a hive, are all very wonderful, adding another proof to the thousands about us of the wisdom and goodness of God, who endows the smallest insect with marvellous powers, and makes even the bees circling over the flower corollas tell-tales of His love and kindness, and of His wisdom beyond the power of human hands.

Freeman, Mo., July 5, 1880.

For the American Bee Journal.

Natural Swarms—Comb Honey.

W. N. CRAVEN.

How and when to get naural swarms and how to succeed in obtaining honey, are questions of much importance. About the time bees begin to gather honey in the spring or fall, I clip all my queens' wings. I then select a hive which I expect to devote to obtaining comb honey; I call that hive A. I take all the combs from it that are destitute of brood, and give them to other hives in exchange for combs well filled with brood, until I get it filled with brood combs; then I put on 18 or 24 section boxes, and it is now prepared. A strong colony of bees is the only way to obtain a large yield of box honey. By this operation the colony is so very strong in bees that they are apt to swarm before the honey season is over; the queen's wings being clipped, she cannot fly from the hive; I catch her at the entrance, place her in a wire cage, then move the old hive 2 or 3 rods away, place a new one on the old stand, prepared as though expecting to hive a swarm naturally, place the queen in the new hive, in the cage, between 2 combs, 1 of them containing brood from some other hive, putting an empty comb in its place; the new hive is now ready to receive the natural swarm. The bees, finding they have no queen, will soon return to their old location; they soon find the queen in a new hive on the old stand, and they enter the hive. About 5 days after put on the section boxes, and it will surprise you how fast they will build comb in them. This I find very successful in obtaining box honey. A large yield of nectar will give them a good start.

The old colony, being much weakened by the swarm leaving them, is apt to stop comb building in section boxes. I start them again right by taking all the combs and giving them to other hives, exchanging them for comb well filled with brood. Soon they will build comb as rapidly as before swarming. If you desire no more swarms, keep the honey from the brood chamber by using the extractor and cut out all queen cells every 8 or 10 days.

I have 1 natural swarm treated in this way, which commenced building comb in section boxes in 2 days after they were placed on the hive; in each section I placed a starter of new white comb; one of these starters was the full length of section box partly filled with new honey, etc.

Bees have not gathered more than a half crop of honey in all southeastern Missouri, as far as I have heard. We hope the fall will make up for the lack in spring.

Poplar Bluff, Mo., June 20, 1880.

For the American Bee Journal.

Sending Queens in the Mails.

R. L. MEADE.

The BEE JOURNAL has been instructing us about queen cages, and requesting all interested in bee-culture, and especially queen breeders, to comply with the postoffice regulations in that particular.

I will here give a description of one received from the dead letter office at Washington, D. C., on the 16th inst. July 1st I received a notice from the dead letter office that a package was detained there for 7 cents insufficient postage; I sent the 7 cents and received, on the above date, a package containing dead bees. The cage (or rather "prison") is as follows: A piece of inch board about $2\frac{1}{4}$x$2\frac{1}{2}$ inches, with an auger hole $1\frac{1}{4}$ inches wide and $\frac{5}{8}$ deep; this contained the bees; behind this there was another hole made by an inch auger, which contained a piece of sponge and a small bit of candy; between these two auger holes there was a saw-cut and a piece of wire cloth pressed into it and

drawn over the bees and tacked down. The whole was wrapped up in strong writing paper, tied tightly with twine, and thrown into the postoffice with a 3 cent stamp. What cruelty, as well as disrespect for regulations!

Thus are your oft-repeated cautions ignored; or do some wish to have the postoffice regulations rescinded? I received my money back on the 10th inst. from the queen-breeders mentioned in the July JOURNAL. Perhaps these bees were sent by them; if so, they deserve to lose them.

Nassagaweya, Ont., July 21, 1880.

For the American Bee Journal.

Feeding Back for Comb Honey.

F. I. SAGE.

I am sorry to see an article in the BEE JOURNAL for July on the above subject. I probably buy and sell more comb honey than any other man in the New England States. To do this I come in contact with all kinds of people, from the wholesale and retail dealers down to the consumers who buy but a few pounds. It is now believed by many that much of this comb honey is, as they express it, "fed honey." They think that glucose, or some other cheap material, is fed to the bees; and not only do the dealers imagine this, but the consumers begin to do so too. And, although you may not agree with me, still I *know* the sale of comb honey in the New England States has been greatly damaged by people getting the above idea. If honey can be fed back so profitably, will not some be tempted to increase the amount with glucose?

In 1878, among other honey, I got hold of a couple of tons from Missouri; if it was not "fed honey," I would like to know what it was. Last season I had about a ton from the State of New York, which looked, tasted and acted the same as that Missouri honey. And as we have an expert who has discovered a profitable way to feed back, and is doing his best to teach others how it is done, is it unreasonable to expect that producers who read all these articles on grape sugar, feeding back, etc., will very soon increase their crop of pure comb honey?

I never handle any except comb honey. The extracted honey trade in New England has been almost ruined by glucosed honey. I sell nothing but comb honey, and wholly to dealers, and in the last few years have done very much toward breaking up this glucose trade by posting merchants and dealers as to the quality of this bottled stuff. Now the glucose peddlers begin to strike back, saying their goods are equal to mine, and say that some bee-keepers advocate the use of grape sugar, glucose, feeding back, etc.

Wethersfield, Conn.

[We think there need be little fear of the increase in the adulteration of honey, or any other crimes, solely attributable to their discussion in the bee-papers, and more especially when it is universally condemned. How can the many injurious uses of glucose be discovered and counteracted except by these public discussions, so long as we have no penal laws to punish and prevent them? If extracted honey, worth 10c. per lb., can be fed back and be stored in the comb, where it will be worth 20c. per lb., must the information be withheld from the many thousands interested, for fear some unscrupulous scoundrel will take advantage of it to have glucose or other vile stuff stored in the boxes? Much better would it be for all, to have general laws making these adulterations criminal offenses, and punishing the perpetrators with the same penalties as other counterfeiters.—ED.]

For the American Bee Journal.

More About Bee Pasturage.

L. H. PAMMEL, JR.

This subject has received a thorough consideration in our periodicals on previous occasions; but we cannot too thoroughly discuss it, being of such vital importance to the bee-keeper to know upon what he can safely rely for a sure crop of honey. Several years ago no white clover honey was gathered here, but now our crop is mainly white clover. Fifteen years ago we depended exclusively upon wild bee pasturage. If we were to depend upon that to-day, we would get no surplus whatever. I was told by a bee-keeper of some experience, that the bees used to fill the hive and surplus boxes with honey and then build comb on the outside of the hive and fill that also. Then the linden trees were in great abundance here, which always gave large yields of honey; but most of the linden trees have been felled by the wood-chopper, so that now but few trees are left for the bees to gather honey from. Then

the woods were filled with wild flowers that filled the air with fragrance: the marshes that were once covered with so many wild flowers, where the bees gathered nectar, have disappeared; but civilization and science have taken the place of our once beautiful wild bee pasture. Scott rightfully says: "Time rolls on its ceaseless course." The past has given bountiful harvests to the bee-keeper without providing for them a pasture to gather honey from; then we could always find our bees at work diligently on some blossom, and, in order to make bee-keeping a reliable industry, we must depend upon bee pasturage sown by man. And it should be done so that the bees can continually gather honey, from the earlist blossoms in spring to the last in autumn.

La Crosse, Wis., July 19, 1880.

For the American Bee Journal.

A Fertile Worker Caught in the Act.

MRS. D. C. SPENCER.

As a prominent writer in a recent number of the AMERICAN BEE JOURNAL expresses the doubt that any one has ever seen a fertile worker, I will state that during my first season with the bees, on July 10, 1879, while examining a colony that, through inadvertance, must have been queenless for some days, and without the means of rearing a queen, I found eggs scattered about promiscuously, sometimes several in a cell. This I concluded was the result of a fertile worker, and I decided to watch a little. I was soon rewarded by seeing a large worker bee, moving with stately tread across the comb, receiving the attentions and caresses often bestowed upon the queen while engaged in her appropriate duties. In a moment more I, with my husband, who was also watching, saw the same worker deposit an egg in a cell, and before it had a chance to repeat the performance I caught it with my forceps and soon put an end to all such assumptions on its part. Eggs and brood from a good queen were given that colony, and in due time it had a laying queen, but quite a large amount of drone brood from the eggs of the fertile worker failed to mature for want of room, being mostly in worker cells, or for some other reason, and it became putrescent and had to be removed. Supposing that fertile workers were no unusual sight among bee-keepers, I thought but little about it until I saw the article referred to above, and venture to put on record what I have seen.

Augusta, Wis., July 20, 1880.

For the American Bee Journal.

Honey Crop—Feeding and Wintering.

HIRAM ROOP.

The season of 1880 has been the poorest for bee culture, up to this time, ever known in this locality. We thought last season a very discouraging one, but the present caps anything yet. Through the month of June there was neither honey nor pollen for bees to gather; the weather was all that could be desired until basswood bloom, when it rained continually for about 2 weeks. If there should be no fall honey, feeding will become the general order of business in this locality. Friend Doolittle considers me blunt in my remarks; perhaps I was, but I did not intend to be uncourteous. I always did like to hear people tell what they know. Why any one should think bees were natives of a warm climate I am unable to tell: for as far back as history goes they were found in the regions of snow and ice; and previous to the winter of 1871–72 bees surely wintered best with us when we had steady cold weather. In those days, if we had asked any farmer that had several colonies of bees in all manner of boxes and "gums," if he was not afraid of losing them in winter, he would have quickly informed us that he never lost any yet in wintering, nor never heard of any one that did, provided they had honey enough. I fear that too many of our most successful apiarists have forgotten how bees formerly wintered.

Carson City, Mich., July 20, 1880.

For the American Bee Journal.

Bee Notes from California.

J. D. ENOS.

Our postmaster refuses to receive queens in the mails. He says that the "Postal Guide" positively prohibits and particularly mentions them, and he gets his instructions through it. Are queens taken by postmasters on your side of the Rocky Mountains (knowing the contents of the package), or are they "smuggled" through? Our postmaster is one of the positive kind, and pretends to follow very close the teachings of the "Postal Guide."

Some time ago bee-keepers were very much elated to think that queens would be allowed the privilege of the mails, but month after month the same positive "No, sir," comes from that same "cubby-hole." Our express company charges 25 cents on queens; and from the East the charges are $1.75@2. So

you can see hat the decision puts us in a very close box. Please give us the information through the BEE JOURNAL, and try to show our postmaster whether the decision is in force or not, and at what time the decision took effect. Also are wooden cages to be accepted, or must they be of tin? I make my cages by boring into a block of wood (sugar pine), and covering with wire cloth. What is the best, or a good kind of food, and how made, to feed the queen and bees in transit? I have made candy from loaf sugar and put in hot with success, and they were confined at least 5 days; one I know was considerably handled.

I got a few queens fertilized as early as April, but had no success until May, owing to cold and rain. Many were caught in the showers and never returned. Our spring was very backward and cold; fruit bloom was scarce, and natural flowers late and not plenty. I fed about 75 lbs of candied honey, and reduced in April to 50 colonies. I saved about 200 Langstroth frames of solidly sealed fall honey, which I gave them in January; this brought them through in good condition, and I lost none, though some of my neighbors lost many.

I was forced to resort to natual swarming in May for good queen cells. All my swarms left full hives, and, thanks to comb foundation, the combs are all built out. I had no sagging this season. The hives were not shaded; I have shade trees growing though, as I think it necessary to secure best results. Our season is over here; bees are inclined to rob, and are driving their drones off the combs. I found it difficult to get much comb honey; probably had my hives been better shaded I might have done more. I was forced to extract, though I have not taken off my comb honey yet. I shall have to do so this week to save it. We only had about 6 weeks of fair honey-gathering; while it lasted it appeared to come in fast and of good quality, gathered from blue sage, wild buckwheat, yerba santa, buckeye mint, pennyroyal and blackberries. I would like anyone that does not believe bees work on blackberries to have seen mine in May last. They might think differently. There are about 15 acres of the Lawton on my ranches.

My bees were traced 8 miles up the mountain this spring, when honey was scarce, by an old hunter.

Bees are working on yerba santa, buckeye and Spanish alfalfa, and the bee balm is just coming in bloom. I have a little melilot clover just in bloom; it is growing on a side hill, very dry and thin soil, with no irrigation. I think it will grow anywhere in this climate. We will have the hawberry in bloom soon, when our drought comes and lasts about 6 weeks, or while corn blooms.

Napa, Cal., June 28, 1880.

[Your postmaster is referred to the "Postal Guide" for February, page 45, section 235, which was then in force, and reads thus:

"The Postmaster General has consented to a temporary suspension of the ruling excluding "queen bees" from being sent in the mails; but when offered for mailing they must be put up in accordance with section 223, and so soon as they are found to injure the person of any one handling the mails, or soil the contents of the mail pouches, this order will be rescinded."

The mails are now freely used for queens, and are never interfered with except by some postmaster who is not familiar with his duties.

Mr. Enos is referred to the back numbers of the BEE JOURNAL for this year, where all his questions about cages, feed, etc., are fully answered.—ED.]

Conventions.

Tuscarawas and Muskingum, O.

Bee-keepers in this locality met at Coshocton, O., in May last, and organized an association. After adopting a constitution and by-laws, the "Tuscarawas and Muskingum Valley Bee-Keepers' Association" was fully organized by electing the following officers for the coming year:

Capt. L. B. Wolfe, President; Messrs. A. B. Thompson, A. A. Fradenburg, Rev. W. Balentine, and Jos. Love, Vice Presidents; Mr. J. A. Bucklew, Secretary, and Mr. Calvin Boyd, Treasurer. The roll for membership was presented and a good number of members obtained.

The following questions were proposed for discussion:

1. What is your method of introducing queens?

2. What is the best season of the year for rearing queens, and how do you proceed in Italianizing?

3. Do you prefer artificial to natural swarming—if artificial, what is your method?

4. There are light and dark artificial queens; what effect, if any, has the color upon their progeny in regard to honey-gathering, etc., and is the dark bee pure?

5. Do bees require artificial ventilation; if so, how should it be introduced?

6. What size do you prefer for brood chambers, and what for storage?

7. Do you extract, or work for comb honey, and from which do you realize the best results?

8. Do you use comb foundation; if so, what advantages are derived, and have you a preference for a particular kind.

9. Some bee-keepers use a honey board on their hives, with small entrance to surplus box; what are the advantages, if any?

10. The cells in the brood comb by constant use become small; does this reduce the size of the bee; if so, what effect has it upon the bee as a honey-gatherer?

11. Is Alsike or Alfalfa clover good for bee pasturage?

11. Can fertilizing in confinement be made a success; if so, how?

13. Swarming too late, would it not be best to kill the queen left in the hive and return the one swarmed out; if not, why not?

14. When is the proper time to transfer bees?

Owing to want of time at this meeting and importance of some of the questions, it was determined to assign several of them to different members present, who would prepare articles and have them published in the county papers. Mr. Fradenburg was assigned the 2d and 3d; Mr. Huff, 4th and 5th; Mr. Thompson, the 6th; Mr. Bucklew, the 8th, and Mr. Wolfe, the 9th.

The 14th question was discussed, and the conclusion reached that the proper time to transfer was during apple bloom, then the colonies were ready for work when the gathering season came. Though transfer can be made at any time, and to avoid robbing in the active season should be made just before night. In early transfer there are fewer bees, and less honey in the way of such work. Bees should be fed strong that they may be a large colony ready for work, and they will not eat if they can get honey. The bee food is made of 3 lbs. grape sugar, 1 lb. coffee A sugar, and ½ lb. rye flour; the grape sugar to be melted without any water added, cooled, then mix the coffee sugar and flour, making a kind of dough, which, moulded in small strips and after 2 days hardening, can be laid in the boxes on top of the frames, where the bees will eat it ravenously until they can gather honey. Food should be provided for them in the interval between the first bloom and the full harvest. It was preferred to work for honey during the season, and near its close devote more attention to increase of colonies.

The past year was very unfavorable for bee culture, and those who saved their colonies did well, without getting any honey. Mr. Fradenburg had tried growing mignonette, an annual plant which makes excellent bee food from June until fall or very cold weather, and noticed the bees working early and late at it; also the same of Simpson's honey plant, a hardy perennial, indigenous to this valley, he had discovered, after sending away and getting some plants. He showed specimens of the roots, leaves and seeds, which any one can obtain by addressing him.

After considerable further discussion of several topics of interest, the first meeting adjourned to hold their next session at New Comerstown, the first Wednesday of October, at 1 o'clock p.m.

L. B. Wolfe, *Pres.*
J. A. Bucklew, *Sec.*

Marshall Co., Iowa, Convention.

The Marshall County Bee-Keepers' Association, met at Marshallton, Iowa, July 10, 1880, at 1 p. m. The usual order of business was gone through with, and the following were the subjects for discussion:

"Improvement of stock" was taken up, and discussed we hope to the benefit of all present.

In our general talk the President, J. Moore, stated he had a colony with a wingless queen that lately swarmed. He watched for her to come out, caught and put her in confinement; then went to hive the swarm and found another young queen with the same swarm which showed that there were 2 queens in the same hive—mother and daughter.

After a good talk, the society adjourned to meet the first Saturday in August, at 1 p. m. Subject for discussion: "Fall Care of Honey," to be opened by Mr. Cover.

J. Moore, *Pres't.*
J. W. Sanders, *Sec.*

P. S.—Bees are doing well here this summer, the harvest is very good so far, and fine prospects ahead. Several colonies were lost last winter because of severe drouth of summer and fall.

J. W. S.

Business Matters.

OUR TERMS OF SUBSCRIPTION,

PAYABLE STRICTLY IN ADVANCE.

Single subscription, one year	$1.50
Two subscriptions, " "	2.50
Three subscriptions, " "	3.50
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☞ We intend only to advertise for reliable dealers, who expect to fulfill all their advertised promises. Cases of *real* imposition will be exposed.

Remit by express, money-order, registered letter or New York or Chicago drafts, payable to our order. *Do not send checks on local banks*, for such cost us 25 cents each for collecting.

THOMAS G. NEWMAN
974 West Madison St. CHICAGO, ILL.

☞ One of the Chicago glucose factories was burned to the ground on the 17th ult. Forty persons were employed in it. It was fully insured, and, we are sorry to say, will be rebuilt at once.

District Convention at Chicago.—The responses to the inquiry, "Shall we have a District Convention at Chicago this fall?" are numerous and emphatic. With one accord they say: "Yes; by all means issue the call, and we will be there." In obedience to this request, we now give notice that there will be a District Convention, composed of the Northwestern States, held at Chicago on Tuesday and Wednesday, Sept. 14 and 15, 1880, commencing at 10 a. m. Full particulars as to place of meeting, hotel accommodations and programme of the meeting, will be given in the BEE JOURNAL for September. As the Chicago Exposition will then be open, excursion rates will be obtainable on all the railroads.

Kentucky State Convention.

The bee-keepers of Kentucky will meet at the Exposition Building, Louisville, on Tuesday, Sept. 28, at 10 o'clock a. m., for the purpose of organizing a State Bee-Keepers' Association. After the organization is effected, it will adjourn and go to Cincinnati, to be at the opening of the National Convention the following day. I hope a full delegation will be in attendance from all the associations in the State. All bee-keepers are cordially invited to attend. DR. N. P. ALLEN,

Sec. Southern Ky. Association.

Honey & Beeswax.

[We will insert free of charge, under this heading, the names and addresses of persons having honey and wax to sell, giving address, description and prices; all to occupy not more than three lines.—ED.]

5 bbls. Extracted, to sell (2 linden and 3 poplar), 40 gallons to the bbl.; $32.50 each, delivered on cars.
B. B. TONEY, Holly Tree, Jackson Co., Ala.

Honey and Beeswax Market.

BUYERS' QUOTATIONS.

CHICAGO.

HONEY.—No comb honey yet on the market worth mentioning. Prices are nominally held at 16@18c., but will doubtless be much higher. Extracted, 6@9c.
BEESWAX.—Prime choice yellow, 21@23c; darker grades, 15@17c.

NEW YORK.

HONEY.—White, in single-comb sections, 13@15c. Larger boxes, 2c. per lb. less. Extracted, 7@9c.
BEESWAX.—Prime quality, 22@24c.

CINCINNATI.

HONEY.—New extracted honey is slowly coming in. I pay 6@9c. on arrival.
BEESWAX—In good demand at 20@25c.
C. F. MUTH.

SAN FRANCISCO.

Since our last report of this market, a dry, parching norther has swept over the bee-ranges, and lasting several days, blasting the white sage and other honey blossoms. The demand for extracted honey for shipment to Hong Kong, Australia and Europe has cleared the market, and it is much firmer.
HONEY—Comb, 11@13c.; Extracted, 6@6½c. ₱ lb.
BEESWAX—23@25c. STEARNS & SMITH.

Local Convention Directory.

1880.	*Time and Place of Meeting.*
Aug. 7	Marshall Co., Iowa, at Marshalltown, Iowa. J. W. Sanders, Sec., Marshalltown, Iowa.
9	Lancaster Co., Pa., at Lancaster, Pa.
31	Rock River Valley, at Davis Junction, Ill. D. A. Fuller, Sec., Cherry Valley, Ill.
Sept. 14, 15.	District Convention, at Chicago, Ill.
29, 30 and Oct. 1	National, at Cincinnati, Ohio.
Oct. 5	Albany County, N. Y., at New Salem, N. Y.
5, 6.	Northern Michigan, at Carson City, Mich.
6, 7	Tuscarawas and Muskingum Valley, at Newcomerstown, O. J. A. Bucklew, Sec., Clarks, O.
7	Central Michigan, at Lansing, Mich. Geo. L. Perry, Sec., Lansing, Mich.
14	Southern Kentucky, at Louisville, Ky.
14, 15	W. Ill. and E. Iowa, at New Boston, Ill. Will. M. Kellogg, Sec., Oquawka, Ill.
Dec. 8.	Michigan State, at Lansing, Mich.
1881.	
Feb. 2	Northeastern, at Rome, N. Y.
5, 6	Ashtabula Co., O., at Andover, O. W. D. Howells, Sec., Jefferson, O.
April 5	Central Kentucky, at Winchester, Ky. Wm. Williamson, Sec., Lexington, Ky.

☞ In order to have this Table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

National Convention.—The North American Bee-Keepers' Society will hold its annual session at Cincinnati, O., on Wednesday, Thursday and Friday, Sept. 29, 30 and Oct. 1st, 1880, commencing at 10 a. m. Further particulars in due time. By order of THE EXECUTIVE COMMITTEE.

ADULTERATIONS OF FOOD;
What we eat and what we should eat. 200 pages. Paper cover, **60c.**; cloth, **$1.00,** postpaid. Sold by
THOMAS G. NEWMAN,
974 West Madison Street, Chicago, Ill.

Bingham's Smoker Corner.

Lexington, Ky., July 14, 1880.

We have sold out every smoker we received from you last. Sold them and no others last year, and this year also. Have never had one complaint. They give entire satisfaction. WILLIAMSON & BRO.

Lebanon, Mo., June 1, 1880.

Bingham & Hetherington's improved honey knife is one of the largest on the market; it is a very strong, durable knife, and is polished and tempered like a razor. It is sharp on both edges, and will not drop a scrap on the honey. E. M. HARRISON.

Galesburg, Ill., June 26, 1880.

You will find enclosed money order for $1.75, as pay for the Bingham smoker, which arrived in a damaged condition. I had to take it to a shop and have it repaired before I could use it. I have a little complaint to make in regard to the bellows. The leather is very soft and flimsy, and will not stay in any regular position. The bellows to my old smoker is to-day better than the new one. Bingham has his name up, and perhaps thinks he can put anything on the market and it will sell, because it is from Bingham. HARMON BROWN.

MR. HARMON BROWN: Dear Sir.—Thanks for the smoker remarks. Of the thousands of smokers sent in the mail, none have ever been seriously injured or lost. Our leather is made expressly for us for smokers, and we get it as soft as possible. Soft sheepskin never cracks, and is the best leather made for smokers. T. F. BINGHAM.

Davenport, Iowa, June 1, 1880.

Bingham & Hetherington's honey knife gives the best satisfaction of any I have had. I had Root's honey knife side by side with it all last season, and the latter is taken in preference every time.

G. W. MARSHALL.

Fairmount, La., July 16, 1880.

I now have 45 colonies of Italian bees, in good working condition, but the season has been a very poor one thus far. I have an Excelsior Extractor, which is a very good machine, and a *Bingham Smoker*, that suits me to a dot. In conclusion, I would like to advise all Southern bee-keepers to get their supplies from Alfred H. Newman, of Chicago. If he does not fill the bill, then my experience is not worth a cent.

JAMES A. DANIELS.

GOOD BEE FARM
For Sale.

I now offer my Bee Farm, consisting of 40 acres of good land, good orchard, good new house, cost $1,200 3 years ago, splendid cellar that will hold 150 colonies of bees, good market for honey. Price, $50 per acre; $1,000 down, balance on long time if wanted. For further particulars address,

7-9 **R. MILLER**, Compton, Lee Co., Ill.

1865.— **THE** —1880.

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C. O. PERRINE, 54 Michigan Ave., Chicago.

Will buy at a fair price, for cash, any amount of

COMB OR EXTRACTED HONEY.

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I can say my goods have given entire and universal satisfaction. The ruling low prices were made by me, and any one desiring any considerable quantity would do well to consult me before buying elsewhere.

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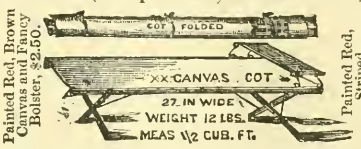
For Italian Queen Bees. Cyprian and Hungarian Queens ready to ship June 20. Our Queens are golden color, and warranted as good as tested ones. Safe arrival guaranteed by mail or express. Price for each Queen, $1.00. Circular free.

4-9 **H. ALLEY**, Wenham, Mass.

XX COT (not painted, White Duck) $2.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Makes a perfect bed. No mattress or pillows required. Better than a hammock, as it fits the body as pleasantly, and lies *straight*. Folded or opened instantly. Self-fastening. It is just the thing for hotels, offices, cottages, camp-meetings, sportsmen, etc. Good for the lawn, piazza, or "coolest place in the house." Splendid for invalids or children. Sent on receipt of price, or C. O. D. For **50 cts. extra**, with order, I will prepay expressage to any railroad station east of Mississippi river and north of Mason & Dixon's line. For **75 cents**, in Minnesota, Missouri and Iowa. HERMON W. LADD, 108 Fulton St., Boston; 207 Canal St., New York; 165 North Second St., Philadelphia; 94 Market St., Chicago. **Send for Circulars.** 6-8

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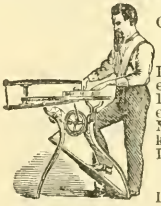

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THE BRITISH BEE JOURNAL,

AND BEE-KEEPER'S ADVISER.

The *British Bee Journal* is published monthly at $1.75, and contains the best practical information for the time being, showing what to do, and when and how to do do it. **C. N. ABBOTT**, Bee Master, School of Apiculture, Fairlawn, Southall, London.

ENDED!

The interference case between James Forncrook and Lewis & Parks has come to an end, and the patent was allowed to James Forncrook on the "Boss" one-piece section (no longer called the "Lewis" section), and would have been issued had it not been for the application of Mr. Delzell.

"Boss" section, 4¼x4¼, $6.00 per 1,000: 5x6, $7.00 per 1,000. We will make the "Boss" section any size desired. Full Colony of Italian Bees, $6.00. Send for price list,

JAMES FORNCROOK & CO.

Watertown, Wis., August 1, 1880. 8-tf

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supplies for your apiary, send a postal card with your name, and if you will do us the kindness, the names of your bee-keeping neighbors, for our illustrated catalogue of apiarian supplies of every description, sample section box and comb foundation. We wish to present them to every reader of this Journal, and hence offer them **FREE.** Please send your name at once. Special attention given to rearing Italian Queens and Bees.

☞ The highest price paid for Beeswax.

1-8 J. C. & H. P. SAYLES, Hartford, Wis.

D. S. GIVEN,

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We also Electrotype Dies any size desired. We make a specialty in rearing queens; all our queens are reared from the egg, and we send out none half-developed. Send for a descriptive catalogue of our Presses, Italian Queens, Foundation, and all kinds of useful implements. A sample of our Foundation sent free. tf **D. S. GIVEN,** Hoopeston, Ill.

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Select Imported Cyprian.....**$10 00**
Common " " **8 00**

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PRIZE-BRED ESSEX PIGS.

Essex are the best Farmers' Pig; have been known to dress 90 per cent. of live weight; small bone, light offal, quick to mature. Jos. Harris, author of "Harris on the Pig," etc., says of my Boar "Porter," that he is the finest Essex Pig he ever saw. A few **Pedigree Pigs** for disposal at moderate prices, suitable for breeding or exhibition. Personal inspection of my stock is solicited. All correspondence will have cheerful and prompt attention.

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Golden Italians.

Fine Tested Queens a specialty. **Send for Circular, and see what others say of them.**

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We will with pleasure send you a sample copy of our

Monthly Gleanings in Bee-Culture,

with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Artificial Comb, Section Honey Boxes,** all books and journals, and everything pertaining to Bee Culture. *Nothing Patented.* Simply send your address on a postal card, *written plainly,* to A. I. ROOT, Medina, O.

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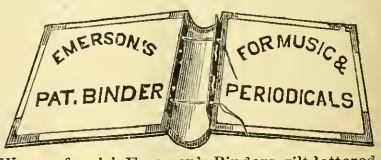

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Cloth and paper, each.....50c.
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LANGSTROTH BEE HIVES,

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CYPRIAN QUEENS.

Mr. Julius Hoffman shipped me, June 23d, a frame of worker eggs and one of drone brood, from which I have, July 9th, 77 Cyprian Queens and 4,000 Cyprian Drones. Received an imported Cyprian Queen from D. A. Jones, July 5th. Will sell untested Cyprian queens at **$2.00**; tested ones, in a 1-frame Nucleus, with half a pound of bees, **$5.00**. Extra bees **$1.00** per pound. Safe arrival by express guaranteed. **J. S. HUGHES**, Mt. Zion, Ill.

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BEE-KEEPERS' SUPPLIES,

which, for quality and price, make their customers happy. Competent judges say that their

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is away ahead of all competitors. If you ever feed bees, try a

HEDDON FEEDER,

the latest, and by far the best, invention of its class; we are the sole manufacturers for 1880. For

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from best strains of Italian blood, we shall lead the trade, and you should see that your orders are sent in early. The choicest of

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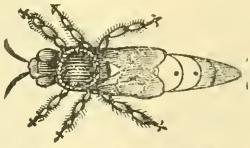
1880.  1880.

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Use my wired frames; they never break out when extracting and allow no sagging, but make combs very strong and durable in the brood chamber. Mr. C. F. Muth, of Cincinnati, said on the 18th July: It is excellent; he had never seen anything better in this line. Wired sample frame, $2.00; frame with foundation, $2.50; frame with comb finished by bees, $3.50. Sent by express. Send P.O.order or registered letter.

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Hybrids or blacks in movable-frame or box hives. Have wintered over

100 IMPORTED QUEENS,

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The purest and brightest yellow foundation made. Hives, Extractors, Uncapping Cans, Veils, Smokers, Pails, Jars, Knives, etc. Send your name on a postal card for circular and sample of foundation free.

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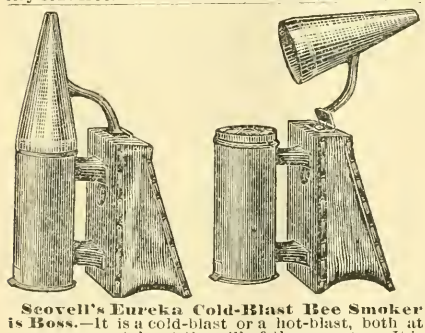

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The Horse

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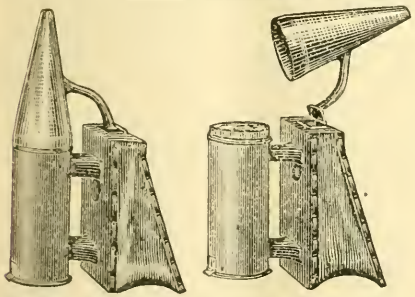

Scovell's Eureka Cold-Blast Bee Smoker is Boss.—It is a cold-blast or a hot-blast, both at once or separately, at the will of the operator. It is the only cold-blast smoker on the market that has no tubes or other complicated machinery in the fire barrel to interfere with filling or cleaning. Large size bellows 5¼x6¾ inches; fire barrel, 2½ inches.

Price.....**$1.00;** By mail..... **$1.25.**

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GREAT REVOLUTION IN BEE-KEEPING.

Use my wired frames; they never break out when extracting and allow no sagging, but make combs very strong and durable in the brood chamber. Mr. C. F. Muth, of Cincinnati, said on the 18th July: It is excellent; he had never seen anything better in this line. Wired sample frame, $2.00; frame with foundation, $2.50; frame with comb finished by bees, $3.50. Sent by express. Send P.O.order or registered letter.
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No. 1.—For 2 Langstroth frames, 10x18 inches... $9 00
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Some of its advantages are as follows: It is made entirely of metal. It is light, but has attachments for fastening down to a platform. It can be instantly taken to pieces for cleaning, having no rusty screws to take out or nuts to remove.

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Published monthly. It will be sent during 1880 with Dr. Cohen's book, 'The Throat and the Voice' (price 50 cents), for ONE DOLLAR. Single copy, 10 cents.

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6-tf PAUL L. VIALLON, Bayou Goula, La.

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The Horse

BY B. J. KENDALL, M. D.

A TREATISE giving an index of diseases, and the symptoms; cause and treatment of each, a table giving all the principal drugs used for the horse, with the ordinary dose, effects and antidote when a poison; a table with an engraving of the horse's teeth at different ages, with rules for telling the age of the horse; a valuable collection of recipes, and much valuable information,

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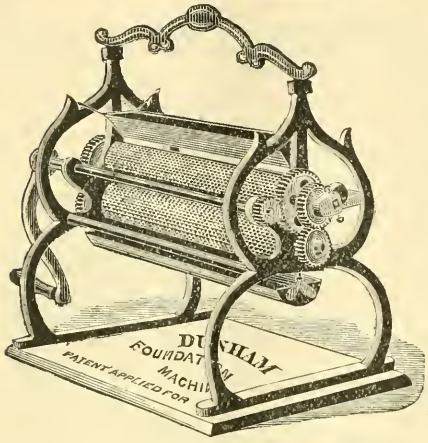

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12 inch rolls		$57.00
9	" "	38.00
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Dealer in All Articles necessary in the Apiary.

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In regular sized sheets 8x16½, 12x18, 7¾x16, 9x16½, 10x11.

1 to 25 lbs	40c.	100 to 200 lbs	37c.
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Add **10c. per lb.** for Thin Foundation for surplus honey; will be 4 or 5 inches wide.

☞ Circular and Samples free.

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At Reduced Prices.

CYPRIAN QUEENS, of Mr. D. A. Jones' importation (according to grade), each ..... **$7 00@12 00**

IMPORTED ITALIAN QUEENS, of my own importation, each. **4 50**

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All orders will receive my prompt attention.

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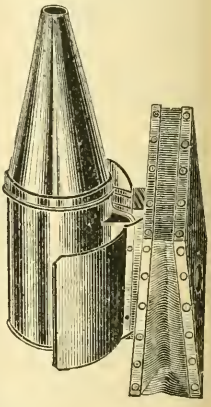

Patented Jan. 9, 1878. Re-issued July 9, 1878.

If you buy a Bingham Bee Smoker you are sure of the best and cheapest, and that you are not liable to prosecution for its use. The largest and most scientific bee-keepers use Bingham Smokers, some using as many as fifteen in their various apiaries.

No Bingham Smoker has ever been returned. No letter has ever been received complaining that our Smokers did not give entire satisfaction; but we have received hundreds of letters expressing the most unbounded satisfaction and preciation of our invention.

The Extra Large Smoker and the Extra Standard for 1880, will have our new extra wide shields, which entirely protect the hands and bellows from heat and remove the danger of burning the fingers. Practical bee-keepers will find these wide shields an important improvement. The Plain Standard and Little Wonder Smokers will be better than ever before, and superior to any imitation smokers, whatever their size may be.

Hundreds of them have been in constant use three seasons, and are now as good as new. One dollar and a half is not much for the use of such an instrument three seasons; is it?

BINGHAM & HETHERINGTON

HONEY KNIFE.

Patented May 20, 1879.

It is a large, strong, durable knife, polished and tempered like a razor, and so formed and sharpened as to cut both ways, over hills and through hollows all the same, without dropping a cap on the honey. The most world-renowned, practical and scientific Bee-Keepers in Europe and America pronounce it "the best Honey Knife ever made."

Large Smokers	2½ inch,	$1 50
Extra Standard Smoker	2 "	1 25
Plain Standard Smoker	2 "	1 00
Little Wonder Smoker, $3.00 per half-dozen; each	1¾ "	75
Bingham & Hetherington Knife		1 00

If to be sent by mail, or singly by express, add 25 cents each to prepay postage or express charges.

☞ Send for circular. If to sell again, apply for dozen or half-dozen rates. Address,

2-9 **T. F. BINGHAM**, or **BINGHAM & HETHERINGTON, Otsego, Mich.**

THE AMERICAN

BEE JOURNAL

Devoted Exclusively to Bee Culture.

Vol. XVI. CHICAGO, ILLINOIS, SEPTEMBER, 1880. No. 9.

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Died.—On July 14, 1880, Dr. E. PENN WORRALL, of West Chester, Pa., in the 60th year of his age.

Dr. Worrall was the patentee of the Centennial Observatory Hive, and has been a bee-keeper for many years. He was a kind and genial companion, and leaves a wife and son to mourn his loss.

Editor's Table.

☞ Mr. O. J. Hetherington gave us a short call, and brought a sample of a reversible frame for our Museum.

☞ Mr. J. D. Enos says: "Our postmaster now admits queens in the mails—thanks to the JOURNAL for July."

☞ We have received several Premium Lists of Fairs, nearly all of which have premiums for bees and honey.

☞ Prof. Cook says: "One of my 'holy' queens has laid 4,000 eggs in one day." That settles one point—they must be prolific.

☞ Thirty thousand Knights Templar were at Chicago last month, and had a grand parade and triennial meeting—among them were several bee-keepers, who made it lively at the office of the BEE JOURNAL.

☞ The Cincinnati *Gazette* has a long article concerning bee-keepers in and around that city. We intended to have republished it, but it is crowded out by other matters.

☞ We notice that Dr. Hipolite, Vice President of the National Society, is one of the Board of Directors of the Arkansas State Fair. He has done excellent work in arranging the matter of premiums for bees and honey. The Doctor reports a short crop of honey in Arkansas.

What the Harvest Is and Will Be.

In this issue we publish reports of about 300 apiaries, in all parts of the country, up to Aug. 25th, and have many more which were received after that date. From careful figuring we conclude as follows:

In Arkansas, Kentucky, Minnesota, Mississippi, Tennessee and Vermont, there is an average yield.

In California, Michigan, New York and Virginia, ⅔ of the usual crop.

In Alabama, Canada, Missouri and Ohio, one-half.

In Connecticut, Iowa, Louisiana, Maine and Pennsylvania, one-third.

In Indiana, Georgia, Kansas, Nebraska and Texas, one-fourth.

In Illinois and Wisconsin, much less than one-fourth of the usual crop.

An average yield was reported by 52; no surplus honey, by 90; all the rest varied between the two extremes.

Last month the BEE JOURNAL estimated that the summer yield would be about one-third the usual crop. We see no reason for changing that estimate, and we now estimate the fall crop at two-thirds—making in all, for the whole season, about one-half the usual yield.

☞ Mr. C. F. Muth reports having received a nice shipment of choice comb honey from Dr. Blanton, of Greenville, Miss. It is put up in sections 5¼x6, and was obtained without separators, but every comb is perfect. This lot of honey is perhaps unequaled in the South, and shows that Dr. B. has devoted time and attention to the study of scientific bee-keeping, and practices it.

☞ On page 343 of the July number, a lad 12 years of age is said to have hived several swarms with the "Bailey swarm-catcher." A typographical error in the age of the boy was unfortunate. It was printed "17 years of age"—5 years too much. We make the correction with pleasure—the more so, as the error was detrimental to Mr. J. W. Bailey's invention.

☞ Mr. S. P. Hyde, St. Joseph, Mo., sends a blossom, and desires to know its name. He says the bees work on it incessantly, etc. It is *Cleome alnifolia*, or Rocky Mountain bee plant, and a good honey producer.

Dr. Davis' queen nursery is a nice thing in which to nurse queens, where colonies are not available to each. It holds 12 queens.

☞ Farm papers have very generally copied the article, "Does it pay to plant for Honey?" from the BEE JOURNAL for August. We are pleased to have them do so, when proper credit is given, but we regret to notice that the *Farmers' Review*, of Chicago, has copied it *verbatim* without credit—thus palming it off as its own editorial.

☞ Mr. J. W. Bagby, Morgan Station, Ky., sends us two fertile workers having dark abdomens. He says: "I saw one of them deposit eggs; the bees treated the other as though she was a queen." By request we have forwarded them to Prof. Cook for examination.

☞ One of our manufacturers of comb foundation has printed on his cards, "manufacturer of artificial combs." We are sorry to see this, for it is *not* artificial—that is unnatural, unreal, fraudulent. It is *real*, natural wax made by the bees, and only restored to them in sheets, when it will be of most use to them, and they will "put it where it will do the most good," and speedily draw it out into *real* combs. Let no one call it artificial, hereafter.

☞ It is desired that each Vice President should send a report of bee-keeping in his State to the National Convention. Send early, so that they may be formulated and properly arranged.

☞ Smith & Smith, Kenton, O., have sent us a smoker as they make it, and ask for our opinion. It is essentially a copy of Bingham's, and a good smoker.

Associations and Conventions.

It cannot but be gratifying to every progressive apiarist, to note the increasing interest taken in the formation of new societies, and the intelligence and harmonious good-feeling which characterizes their conventions and debates. Every meeting held is an instructive school to many who have been toiling in the old ruts, doing little or no good to themselves, and who have been a drawback and positive injury to the scientific specialist who depends mainly upon the product of his apiary for his livelihood. It is observable, that the tendency of societies to elevate the individual member, necessarily stimulates a pride which aims to excel in the product placed on the market, and the result is a stimulation of prices.

All local Societies should see to it that there be a large attendance at the District Convention, to be held in Chicago on the 14th and 15th inst. Mr. G. M. Doolittle, of New York, whose able letters in the JOURNAL each month have been read with so much interest, and many other successful apiarists, are expected to attend. Let all interested in bee matters attend; formulate your experience, and prepare your questions for discussion. Come prepared to have a sociable time, and to bear your part in the debates.

The Annual Convention of the North American Bee-Keepers, to be held at Cincinnati Sept. 29th, 30th and Oct. 1st, promises to be the largest, most enthusiastic and most important ever held in this country. An unusually intellectual treat is promised by some of the ablest essayists in the country, and the discussions will embrace a variety of subjects and experiences that cannot fail to instruct or interest the most advanced bee-keeper. A very liberal and exhaustive programme has been prepared, which will be found on another page. Make your arrangements early to attend, and let no mistaken ideas of economy keep you away. Below will be found a letter from Mr. Muth, setting forth some of the advantages of the place selected for the meeting:

Cincinnati, O., Aug. 16, 1880.

FRIEND NEWMAN.—There is no better place in Cincinnati, for holding the meetings of the National Convention, than at the Bellevue House, on the hill top. There will be found a splendid pavillion of sufficient capacity to accommodate the Convention; in front, is an abundance of shade trees, where the weary may rest, and put out their bees if any are brought for exhibition. Should the weather be unfavorable, we can occupy the capacious hall in the second story. Those who desire can take their meals at the Bellevue House, or can ride down town to any of the hotels. Those who attend this Convention must wear badges, and these will be recognized as free passes up in the "Inclined Plane Car." As you are Chairman of the Executive Committee you must get up these badges and bring them with you. You have had excellent opportunity of seeing the nice ones used in Europe, and can get up something creditable. Our meetings will be visited by a large number of strangers and Cincinnati and its surroundings will be well represented. Only a few squares north of Bellevue, and connected by street railway are our Zoological Gardens, Burnetts' Woods, Mount Auburn and Clifton, the prettiest spots around this city, and affording the grandest views of it. C. F. MUTH.

☞ In order to give the Crop Reports in this JOURNAL, we have been obliged to abbreviate many of them, and omit entirely much that had been prepared for this issue. We requested a postal card announcement of crop, but many were so full that it took from 4 to 12 pages to tell their story. We have gleaned the information desired and "digested" the rest; the greatest good to the greatest number being our object. All who have reported will please accept our thanks, as well as the unexpressed thanks of the great body of apiarists.

☞ The Toronto Fair will be held Sept. 6–18, 1880. Mr. D. A. Jones promises to be there with a large display of honey and bees, including queens from Palestine, Syria and Cyprus. It is intended to have a Bee-Keepers' Convention held there at the same time.

Crusade Against the Bees.

The London *Daily News* has published the following item:

It is a disadvantage of civilization that it shows us the dangers to which life is exposed. Every year presents us with a new peril, and the latest is always the least expected. French men of science are now preaching a crusade against the industrious race of bees. Not only are they destructive to property, but they are actually dangerous to human life. The Prefect of the Paris police has been appealed to. M. Delpech has drawn up a formidable brief, and is precise in his statements and clamorous in his demands. It seems that bee-keeping is lucrative in the neighborhood of Paris, and that so also is the distillation of spirits and the refining of sugar. Moreover, wherever there are sugar works the bees are active and abundant. At Say, for instance, the loss attributable to them is estimated at £1,000 a year. M. Delpech gives facts and figures. At another refinery the number of bees killed daily amounted to fully 22 gallons. He himself saw a large glass of syrup drank up in 2 hours. As to loss of life he is equally circumstantial. He gives a full list of people who died of bee stings in the course of the year. Most of the cases occurred in America, but many are furnished by France and some by Germany. The death is very painful and in some cases extremely sudden. At Chemnitz, in Hungary, a peasant stung while cutting a branch of a tree died on the spot. At Chester, Penn., a farmer, examining some hives, was stung, fell at once into a state of syncope, and died within a quarter of an hour. In another case 25 minutes elapsed between the wound and its fatal consequence. M. Delpech accordingly appeals to the Prefect for the assistance of the police, and what he asks is that the keeping of bees may be placed in the category of dangerous and unhealthy occupations. The 4th Georgic of Virgil may be read with new interest.

"*Funny Folks*," a London illustrated paper, contains a cartoon on the above subject, characterizing the keeping of bees as a misdemeanor, as declared by French authorities.

We have lately noticed several instances of death resulting from bee stings. But the condition of the system of the persons stung doubtless induced the poison to take rapid effect, shortening life a little—the stings acting only as any other casualty, to which all humanity is subject.

Ingratitude.

R. C. Kedzie, Professor of Chemistry in the Michigan Agricultural College, has lately been making elaborate tests of the relative value of the different kinds of wheat. The "Clawson" has heretofore been deemed less valuable for flour, and 10c. per bushel has been the penalty of this prejudice. The Professor has demonstrated that it is fully equal to other kinds, and now it ranks with them, saving the Michigan farmers alone half a million dollars a year. The College modestly asked the Legislature to grant a small amount for needed apparatus for the chemical laboratory, but we notice by the papers that it has been refused—thus rewarding the College for its valuable work by the grossest ingratitude. How natural it is for public benefactors to be treated with inconsideration while living, but to be honored and lauded when their race is run and they no longer need encouragement, having passed beyond the smile or frown of mortals.

Comb Foundation Experiments.

It will be remembered we intimated in the BEE JOURNAL for August that we would submit the Given wired foundation to another trial, as we did not think the test a satisfactory one, owing to the wash used on the plates. Our subsequent experiments have been much more favorable for the Given, but invariably the Dunham has been first completed and fully occupied with brood or honey before the Given or Novice. We cannot but reiterate the conclusions then arrived at, although there may be especial uses or places where some other foundation may be preferred.

☞Strangers wishing to visit our office and Museum of Implements for the Apiary, should take the Madison street cars. Going west they pass our door.

Melilots as Weeds.

"It now and then happens that a plant heretofore regarded as harmless, finds a locality specially favorable to its development, becomes aggressive, growing where it is not wanted and is recognized as a weed. Singularly enough two species of the same genus, *Melilotus*, have come to us this year from widely separated localities—Maryland and Texas—to ascertain their names, and both represented as unwelcome intruders. There are two species of Melilot common in the older States, a white and a yellow flowered. Both are coarse branching plants 2 to 4 feet high, or even taller. The leaves are shaped like those of clover, rather smaller, and the divisions toothed; the flowers, which are minute pea-shaped are in little racemes, which go on lengthening and blooming, so that while there are buds and flowers above, the little one or two-seeded pods at the bottom of the cluster will be full grown if not ripe.... The White Melilot, *M. albus*, is from Maryland; the yellow, (*M. officinalis*) besides the different color of its flowers, has somewhat differently shaped leaves, there are other species, and all have the peculiar odor that is so marked in the Sweet-scented Vernal-grass, the Seneca grass, and especially the Tonqua Bean. The White Melilot, known as Sweet Clover, and sometimes as Bokhara Clover, is sometimes cultivated by those who are fond of its perfume. It was formerly cultivated in England, not so much as a fodder crop, as cattle will not eat it when fresh, but to mix with poor hay in order to perfume it. In Europe this or a related species is bruised and mixed with the curd to flavor it in making Gruyere cheese. This is all that can be said in favor of the plant; it is often found as a straggler along road sides and in waste places, but not in a manner to arrest attention. Last June, Mr. T. Davids, who has a farm near Annapolis, Md., brought us a remarkably vigorous specimen, which reached as high as one's head, and branched from the very base. This, according to Mr. Davids, is spreading with great rapidity, making inroads upon the grass lands, appearing in the wheat fields, and threatens to be a serious pest.....If left alone they are biennials, the root dying at the end of the second year, and after it has provided for its abundant increase by seed. If the tops are cut away before the seeds are ripe, we are met by another difficulty—cutting off the top prolongs the life of the root. Were a crop of seeds perfected this would so exhaust the root that it would die, but by preventing this we keep the old root which becomes stronger and pushes up its shoots year after year."

The above extract from a late number of the *American Agriculturist*, bears strong testimony as to the "staying" qualities of melilot or sweet clover, and its adaptability to any climate. We heartily thank the editor for his recommendation of the plant to bee-keepers, and making mention of points we had forgotten to call attention to. Except the mammoth mignonette (*Reseda grandiflora*), we know of no plant so well calculated to serve every turn, and again repeat our advice to plant sweet clover plentifully—everywhere. See to it, in October or November, that all waste places are seeded in melilot, and early in spring scatter mammoth mignonette in every place overlooked this fall with melilot. The happy, contented hum of your bees, and the generous return of beautiful, rich honey, will well repay you for the little trouble involved. In truth, had apiarists long ago, generously provided for their little workers by planting the barren spots and waste places, our "Honey Harvest" department would not this number be so monotonously discouraging.

Prince Arthur Hive.

Mr. Anthony Malone, Garden Island, Ont., has sent one of these hives to our Museum. As its name implies, it is gotten up in *princely* style, and has been greatly admired for its beautiful finish and workmanship. It is ingeniously arranged so that the outer shell turns down all around exposing the frames, which may be opened like the leaves of a book. It is in this particular very much like the Armstrong, Latchaw, and some other hives. Prize boxes or sections of any of the newer styles may be used over the frames for surplus. It can be made to conform to the "long idea" shape, containing 24 frames when used for extracting honey. It is stained, varnished, lettered in gold, and mounted with brass trimmings, and is an ornament to our Museum.

Conventions.

Lancaster Co., Pa., Convention.

This Convention was held at Lancaster, on Aug. 9, 1880.

After the usual preliminary business, the following was given in as the reports of the present season:

President Hershey started in the spring with 60 colonies, of which he sold 8. He has at the present time 108 colonies. He also got 250 lbs. of honey, and reared 250 queens. Mr. Hershey pays more attention to rearing bees than to honey. He also has Mr. Detweiler's colonies under charge. There are 65 colonies; he got 787 lbs. of comb honey 80 lbs. of extracted, and 3 swarms. They are now gathering honey fast. This is a small yield—too many old queens. There are 250 colonies within the radius of a mile of his place.

A. B. Herr began the season with 5 colonies, and now has 12. He tried to make swarms, not honey.

L. Fleckenstein began with 9 colonies. He got 215 lbs. of honey, and expects a good deal more. His bees cross the Susquehanna into York county, and bring over buckwheat honey. He has 13 colonies now, although he tried to get honey rather than new colonies.

John Eitermiller started with 19 colonies, now has 22, and got 400 lbs. of honey.

J. H. Mellinger began with 12 colonies and increased them to 16; he got about 275 lbs. of honey.

I. G. Martin started 30 colonies and increased them to 32. He has also received 760 lbs. of honey up to the present time.

Elias Hershey began the season with 24 colonies; increased them to 29 and has taken about 750 lbs. of honey.

T. Thurlow started with 9 colonies; increased to 14, and has so far obtained 225 lbs. of honey.

J. B. Eshleman wintered 25 colonies; he now has 30; his yield of honey is 400 lbs. The hives are well filled with honey and are ready to go into winter quarters. He introduced new queens into a good many of his colonies, which was a drawback.

Do Italians Gather Honey from Red Clover?

The above question was proposed by I. G. Martin, who asserted the affirmative.

J. H. Mellinger also advocated the affirmative side of the question. He believed much of the honey gathered by Italians is derived from red clover.

J. B. Eshleman followed with the same views. Go into any clover field and you will find it covered with Italians. If they do not get honey there, what are they there for?

I. G. Martin placed on exhibition a case of red clover honey, which was very beautiful. Also some "honey dew" in boxes that was fine.

J. F. Hershey believed we get more honey out of the red clover than the white. He can see the clover fields in his vicinity fairly swarming with bees. Perhaps the western apiarists have clover that grows more rank than ours, so that the bees cannot reach it.

L. Fleckenstien asked why more honey is stored in the spring than afterwards, when the red clover blooms?

A Bee Feeder.

J. F. Hershey had on exhibition a bee feeder which he believed to possess many advantages. It introduces the food just where the bees are, prevents robbing, creates no excitement and allows but few to get at it at one time. He explained the manner of its use and it met with the approval of the society. He also said his colonies last winter did well. They began rearing brood rapidly and he has not lost a single colony in 3 years. He wintered 60 colonies.

"Dew Honey."

The "dew honey" was tested and found to be far inferior to clover honey. It was also asked whether this honey was good to winter bees on. The general opinion was that it would do for that purpose, especially in mild winters.

Grape Sugar as Bee Food.

The value of grape sugar ws also discussed. The feeling was against its use to feed bees. There is not enough sweetening in it. Good cane sugar is cheaper at double the price of grape sugar for this purpose.

A Bad Season.

The season on the whole has been a poor one for honey. Too much rain is the cause. It has been more profitable to rear queens this season than honey.

The Best Plan to Rear Queen-Cells?

J. F. Hershey asked the above question and called for the members' views.

T. Thurlow gave the methods of Mr. H. Alley, of Mass., at some length.

J. F. Hershey detailed his own method and said he had no trouble in rearing fine queens.

Transferring.

J. H. Millinger asked whether it was too late to transfer?

If there is an abundance of honey it may be done now, but it requires skill. A better time is the spring, when it is comparatively easy and nearly always successful.

How Large should a Hive Be?

A. B. Herr thought the lower story ought to be of about 2,000 cubic inches inside capacity. These dimensions have given him good results.

J. H. Mellinger advocated the use of a hive of 1,728 inches capacity.

I. G. Martin has Langstroth's hive, which is of about 1,700 inches capacity. He believes you get more honey out of such hives.

J. H. Mellinger thought it depended far more on the queen and bees than it did on the size of the hive.

Elias Hershey believed a hive a foot square is the best of all sizes; the bees can better take care of themselves in it.

L. Fleckenstien, after trying many kinds, has now a hive a little larger than a foot square.

T. Thurlow believed a brood-chamber of 2,000 cubic inches is entirely too large. In such a case more honey is stored there than will winter two colonies and very little in the boxes.

Average Yields.

It was asked what the average yield of honey was in this county per colony. Elias Hershey one season averaged 53 lbs. This year his average will not be over 25 lbs. I. G. Martin said his highest average was 48 lbs. Last year it was only 35, while this season it will not exceed 25 lbs.

There being no further business, the meeting adjourned to meet again on the second Monday of November.

N. E. Wisconsin Convention.

This Convention was held at Waupun, Wis., on May 4, 1880. Meeting called to order by the retiring President H. P. Sayles, of Hartford, whose address was listened to with great interest.

Officers for the following year:

President—A. A. Winslow, of New Holstein.

Secretary and Treasurer—Mrs. Frances Dunham, of Depere.

Vice Presidents—G. H. Pierce, of Winooski; T. E. Turner, of Sussex; Geo. S. Church, of Neenah; Jas. Forncrook, of Watertown.

Reports on wintering were called for:

Pres. Winslow in 1876 lost 18 colonies; in 1877, lost 45; in 1878, lost 30; in 1879, lost 57. The loss of queens was very great; the bees were all alive at the beginning of spring, but having no queens of course died. Winters on summer stands well packed with chaff.

Mr. Bales packed 20, lost none.

Mr. Stephens buried his bees in a soil-pen, packed with straw and dirt; lost none.

Mr. Bourne put 25 colonies in cellar; lost none.

Mr. Guenther wintered 700; lost 11. Wintered on the same plan he has already given to this Association last year, viz: with *wool* quilts, and no direct draft, and strict attention to fall management. Some were in damp and some in dry places; all came out well. The losses being from taking out too early in the spring. They all had quilts over the frames; some cotton, but most wool, which is decidedly best. A colony protected with quilt made of ½ lb. of wool will consume 4 lbs. less honey than one with ¼ lb. of wool.

Mr. Hodgson thinks the condition of the bees in the fall is the main thing. Those put in the best condition, come out best. His house, 18 inch walls, filled with shavings proved a failure: lost 25 colonies out of 100.

Mr. Pfeffer lost 30 out of 430.

Mr. Germain has taken much pleasure in his bees, has tried every way, and has always lost. Built a splendid cellar, walls 18 inches, laid in lime and mortar; put 48 colonies in; took caps off and laid pieces of rag-carpet over frames; put in Nov. 4; set on shelves; lost quantities on the floor; had plenty of honey but dwindled very badly.

Mr. Guenther says *spring dwindling* is very easy to prevent. Bees should be looked over September 1st, and if not rearing brood in abundance should be fed; 9 lbs. of honey if fed judiciously will rear 3 frames of brood. The only loss he can report is from a man who did not feed at that time. Reports emphatically that spring dwindling is due to fall management. Twenty-four pounds of honey is an abundance to winter on; a wool quilt over frames; an inch auger hole above the entrance, so that they can have air; even if the lower entrance is clogged with dead bees. They should not be disturbed. Gives them a fly in March and put them back till settled weather. Puts his bees into winter-quarters November 1st. Four days after giving them a fly gives them water, about ½ pint in an inverted bottle, with a piece cut from the side of the cork and a rag inserted. His bees continue to rear brood from that time till they are set out. Averages 220 to 250 lbs. of extracted honey; which pays him best. Some colonies gave 300 pounds.

Mr. Hodgson has found from his own experience and from many persons of whom he has inquired, that bees winter best in cellars with merely the ground instead of board floor or cement.

Mr. Gibbon has wintered the best with his bees set right on the ground with a board between; they were much better than those set higher up.

Mr. Sayles says he has tried wintering nucleus colonies on Mr. Guenther's plan; feeding September 1st; wool cushion; and auger hole above entrance with perfect success.

Mrs. Dunham suggested that each one tries 5 colonies on Mr. Gunther's plan, and report the result.

Mr. Moore says he built a new bee-house of brick; wood lined; dead-air space; plastered and 4 ventilators; also ventilators to let out hot air; keeps the room 30° to 35°; put in 6 colonies; one colony had a space for ventilation in hive, which filled with ice; took ice out but the bees died.

Mr. Place put 46 colonies in cellar in November; first tier 2 feet above the floor; had enameled cloth over frames but found them very wet; put on pieces of heavy blanket and they became dry and nice; brought them all out splendidly but one which smothered; has lost some by dwindling and starving on grape sugar; has it planted all over his garden, and even the neighbors' bees will not touch it.

Mr. Johnson says he has tried upward ventilation with loss. He was successful with no ventilation and dry earth till a severe winter made a total loss; he then packed snow around and smothered them—they need some ventilation, but not much. A direct draft he thinks causes a loss of heat. On account of bees visiting stores, in villages, and being killed there, he keeps them shut up till late in the spring. When snow is on the ground, he spreads straw around before giving them a fly.

Mr. Spear asks if bees can be wintered without pollen?

Mr. McColm wintered 3 colonies without pollen; much brood-rearing requires too much activity and too great a consumption of honey; breeding in winter is a great detriment; young bees must fly to be healthy; in 1877 had 98 colonies, lost 45, and every colony that died had brood in every stage; in 1878 had 65, lost heavily again from extreme breeding; in 1879 became satisfied that breeding was attended with loss, so deprived 3 colonies of pollen; they done well.

The Convention adjourned to meet at Oshkosh, Winnebago county, Wis., the third Tuesday in January, 1881.

FRANCES DUNHAM, *Sec.*

LaCrosse, Wis., Convention.

The bee-keepers in the vicinity of LaCrosse, held a preliminary meeting at the City Hall the 10th of August. John A. Zalser was chosen temporary Chairman and L. H. Pammel, Secretary *pro tem.* Mr. Pammel stated the object of the meeting, and gave a brief history of bee-keeping. Those present then decided to make preparations for an exhibition and meeting to be held at the City Hall, on the 14th day of September. A programme was also completed including four essays which several prominent bee-keepers have decided to write for the Convention.

L. H. PAMMEL, *Sec. pro tem.*

Northern Indiana Association.

A number of the bee-keepers of Porter county, Ind., met at the court house in Valparaiso, July 31, 1880, and organized a bee-keepers' association, to be known as the Northern Indiana Bee-Keepers' Association, and elected J. L. Harris, of Wheeler, President; V. Heineman, of Valparaiso, Vice President; J. B. Decrow, of Valparaiso, Secretary; T. S. Bull, of Valparaiso, Treasurer. Their first meeting is to be held September 25, 1880, at 2 p.m., and their regular meeting for the election of officers, is to be held the first Thursday in April, 1881, in Valparaiso, Ind.

J. B. DECROW, *Sec.*

N. W. Ill. & S. W. Wis. Convention.

The North-western Illinois and South-western Wisconsin Bee-Keepers' Association held its quarterly meeting at Squire Whitlesey's, 2 miles south of Pecatonica, May 4, 1880. All the officers being present the meeting was called to order by President Lee.

Many questions were presented and discussed.

Mr. H. W. Conklin presented an implement for making a starter in section boxes. It consists in placing a half-cell in wax on the under-side of top of section box. The invention was presented to the bee-keepers for which the Association tendered its thanks to Mr. Conklin. Thanks were also voted to Squire Whitlesey for his hospitality. The Association adjourned to meet at Mr. Levi Heister's, in Rock Grove, Stephenson county, Ill., on Tuesday Sep. 7, 1880.

The annual meeting will be held in Freeport, Ill., on the second Tuesday of January, 1881. J. STEWART, *Sec.*

Letter Drawer.

Swarm Catchers.—Will any of the readers of the AMERICAN BEE JOURNAL, who use swarm catchers, please inform me if they are a success, and worth the trouble and expense of making a sufficient number to supply an apiary? The honey crop is not up to an average in this section.

I. C. THORN, M. D.
Garafraxa, Canada, July 26, 1880.

A Welcome Visitor.—The BEE JOURNAL is a welcome visitor to our home; we peruse its contents, anxious to gain information in the different branches of apiculture, and a good share of our success is due to its instructive pages. If the BEE JOURNAL has paid us well for the eagerness we have manifested in reading it to advance in the pleasant occupation of bee-keeping, the July number has done more than that, it has touched a tender chord and aroused the memory of former days, to see in its columns (page 322) a communication from the dear old fatherland, and that not a great distance from the dear old parental roof of our childhood. We feel like shouting: "Long may it wave and bring tidings from the still cherished shores on the other side of the ocean." GREINER BROS.
Naples, N. Y., July 25, 1880.

Satisfactory Honey Yield.—I have extracted 4,000 lbs. of white honey, of good quality, from about 70 colonies. I do not know whether this is ¼, ½ or a whole crop. I have spent about 20 days in getting it, and am well satisfied with the result. I sell extracted honey at 15c. per lb., and comb honey at 20c. I have been in the business 3 summers, having started with bees in boxes; they are in Langstroth hives now, and are mostly in good working order. Have had but one swarm leave me; that went 14 miles by observation, and how much further no man can tell. I live between two high mountains, the sun always shining into our valley at noon, and the flowers always blossoming either in the valley or on the mountain sides. Basswood, melilot, white clover and buckwheat are the main supply. I winter in a building made on purpose, with walls 26 inches thick, and floor overhead covered with sawdust. It does not freeze in the coldest weather, nor get warm during a thaw. The temperature is regulated by ventilators. The bees consume but little honey during the winter. I am well pleased with the business, and have met with no discouragement, except from anxious friends. I think the Green Mountains a good place to keep bees, though but very few are kept here. Success to the AMERICAN BEE JOURNAL. P. T. GRIFFITH.
Danby, Vt., Aug. 4, 1880.

Honey from Red Clover.—To those who still believe that honey bees do not work upon red clover, I must repeat that I have seen hundreds of them do so, black bees at that; yet I do not see them do so every year. I have lain in the clover and watched them hour after hour. They seemed to get honey, as well as a dark-looking pollen. This year I noticed bees working freely upon flowers they did not seem to touch last year. During harvest I noticed many bees working upon parsnip and timothy, first upon one then the other, in the same flight. I have often watched bees among mixed flowers, and never saw them do this before, except a single bee, which flew from mustard bloom to dog-fennel flowers, and then away as though ashamed of what it had done.

WM. CAMM.
Winchester, Ill., Aug. 8, 1880.

Mitchell's Patent—Persistent Swarming.—Levi Mosier still claims a patent on N. C. Mitchell's bee hive, and says he will prosecute any one who attempts to use the hive without buying the right to do so. Is there a patent on a plain division board, without rubber strips, and only a slat along the top, to hang like a frame in the hive? Our bees are doing as well as can be expected, it was so wet last spring; they seem to be very strong. We have 10 colonies. I wintered 6. We had 1 swarm come off about the last of June, which went back; still it came out and went back 10 times. They came out every day when it did not rain. On the 3d of July they came out; some of them lit, and some went back. I hived them on Sunday morning; they came out again and all went back; the same afternoon they came out again, alighted, and I hived them. On Tuesday, the 6th, another swarm issued from the same hive. I put them all together, making a large swarm, and they are doing well. They swarmed 14 times in all. What was the cause? C. FLETCHER.
Columbia City, Ind., Aug. 1, 1880.

[Do not let Mr. Mosier's threatened prosecution deprive you of sleep. Mr. Mitchell's patent does not cover a plain division board, or one with a "slat along the top to hang like a frame in the

hive." If all persons keeping bees became constant readers of some good bee periodical, these blackmailing threats would soon cease to be remunerative to the persons making them.

The return of the swarm to the parent hive so often was probably owing to the loss of the queen when first issuing, or her inability to go with them; during the demoralization attendant, several young queens were hatched, and each went with an "after-swarm."—ED.]

The Curculio.—I saw in the August number mention made of burning coal gas tar as a remedy for curculio in plums, etc. If this is a positive remedy, I think a knowledge of it would be worth twice the subscription price of the BEE JOURNAL, for those who want to raise plums. We have what is called the Minor plum; the trees were loaded with plums, which are now rotting and falling off. What time does the curculio work—night or day? How does the insect look. We have looked day after day, and could see nothing. Would the burning of gas tar be injurious to bees? Our bees are near the plum trees. It seems as though they were stung after they were more than half-grown. They are very large plums. C. FLETCHER.

Columbia City, Ind., Aug. 8, 1880.

[The curculio work (or eat) day and night, when neither too hot nor cold. They look like a small worm or weevil, and their presence is usually indicated by numerous fine, spray-like webs. The burning of gas tar would be injurious to your bees, if done while they were flying; but for several reasons the smudging better be done in the evening. Without knowing the situation of your plum trees, we suspect the vegetation around and under them is very tall and rank, which is injurious, as it harbors insects to sting the fruit, and frequently causes earth-damp to blight it.—ED.]

Making Foundation.—On page 365 of the August JOURNAL, I notice an article concerning Mr. F. W. Chapman's invention to help the manufacture of comb foundation. This is my plan to accomplish what he states, though he does not give the *modus operandi*. Just before the end of the sheet gets to the rollers, I lay another sheet, just lapping the edges, thin end first, and so on, running it out as long as I want it. I use a root which grows in Southern Utah and Arizona to prevent the wax sheets from sticking to the rollers. We call it soap root, or "ooze," and it works admirably. The tops are like bayonets; it grows in bunches about 4 feet in diameter. I do not wash the foundation after it is passed through the mill, and the bees work on it as soon as it is put into the hive. I think that wax melted in the sun is better for foundation. I send you two samples made on the Olm mill—the lightest in color was melted in the sun, on the cover of a hive; the other was re-melted over a fire. You may "mutilate" this letter all you wish, and publish only such portions of it as you think will be of general interest.

J. G. BIGLER, JR.

Nephi City, Utah, Aug. 6, 1880.

[The samples sent are very nice, and the one "melted in the sun" is almost white. We have placed them in our Museum.

We think our correspondents are well satisfied that we never "mutilate" an article sent for publication, except to improve its grammar, or to condense it to make it more readable and acceptable to both the author and our readers. All the "hue and cry" about our "mutilating articles" comes from those who are not among our correspondents, and they offer no proof, but bare *assertions*, prompted by prejudice and a selfish desire to injure the BEE JOURNAL.—ED.]

Goldenrods, etc.—What is the enclosed weed? It grows in abundance along the creeks here, and the bees are now working greedily on it. It is now about 6 feet high. My bees have done splendidly, and are as busy now as during the month of June. They are still on the white clover, also red clover and buckwheat. R. W. KEENE, M. D.

Versailles, Ky., July 22, 1880.

[It is a goldenrod (*Solidago*), from which bees obtain much nice fall honey. —ED.]

Wired Foundation.—Our bees seem to be using all their energy thus far this season to increase, consequently there has been but little surplus honey stored. It has been a good season for bees up to about July 20th. It has been so dry since then that they have not done much. Most apiaries have doubled, and some have trebled, making up in many instances the heavy losses of last winter. There are more bees on the ripe peaches

and apples than I ever noticed before, and the drying scaffolds are literally alive with them every morning and evening. White clover has dried up, and bees are now at work mostly on buck-bush (*Symphoricarpus vulgaris*), mustard and a meadow flower, a specimen of which I enclose, with the request that you give the name in the AMERICAN BEE JOURNAL. I have used about 40 frames of wired comb foundation this season, and am well pleased with it. W. L. FRENCH.

Martinsburg, Mo., July 26, 1880.

[The specimen enclosed is one of the mint family, and produces considerable honey.—ED.]

Shade Trees for Hives.—Hemp seed sown in the fall, and set out 5 feet apart in the spring, will give good shade for hives. Trim them to suit; they will grow 12 feet high if not cut.

JOHN BOERSTLER.

Monterey, Ill., Aug. 10, 1880.

Good.—From 1 colony in the spring I have obtained 70 lbs. of honey and 1 natural swarm. I then divided the parent colony into 3, as it was very strong, making 4 in all, and gave the two new colonies tested Italian queens. Honey is short, but I am feeding them all they will take. Can I succeed in building them all up to good colonies this fall?

A. D. DILLEY.

Des Moines, Iowa, Aug. 5, 1880.

[Yes; if you do not tax them too heavily in comb building. By giving good foundation or clean combs, as fast as they are ready for it, we believe almost anything is possible in the way of increase, in an ordinary honey season. Certainly a dozen from one.—ED.]

Best Season for Many Years.—The past season has been one of the best for honey-gathering we have had for many years. The hives were almost empty in the spring, but they soon became so crowded with honey as to obstruct brood-rearing in some instances; consequently, we had but few early swarms. Latterly, however, they have strong tendencies toward swarming. Two large swarms have issued during the last few days. Nearly all of them are full of drones, and comb-building is still going on. Why is this? Do the bees expect a tall honey harvest, or have they forgotten the time of year? Black bees have done but little so far as heard from. I lately received a queen from H. Alley, and after I thought her safely introduced I raised the cover to see that all was right, when the queen took flight for parts unknown, and, although I left "all things as they were," yet she failed to make her appearance. Many Kentuckians will be glad to meet you at the National Convention at Cincinnati, Sept. 29, 30. L. JOHNSON.

Walton, Ky., Aug. 20, 1880.

[The bees are evidently preparing for swarming, notwithstanding the lateness of the season.—ED.]

Queries.—1. Are queens reared at swarming time more liable to lead out swarms than if reared before or after?

2. What are queens warranted and tested for—for 3 yellow bands?

3. What do bee-keepers mean when they say a "crop" or "half a crop" of honey? Do they mean as much as the Yankee when he says "A good bit," or "Well, right smart?" Please stick a stake for us somewhere between 25 and 150 lbs. H. W. FUNK.

Bloomington, Ill.

[1. No; as a rule, we are not aware that the queen leads out the swarm.

2. Queens are warranted and tested to be pure Italians, and to be purely mated; they are never, that is, "hardly ever," marked with 3 yellow bands.

3. When a term of years are compared one with another, it is easy to arrive at an average honey yield, or, in bee-keepers' parlance, "crop." This average may be varied by location, race of bees, or other causes; therefore, we must let the intelligent reader stick the stake where it best suits.—ED.]

Bee-Killer.—I send you a bee-killer, caught in the very act of killing a bee. I discovered it on some brambles struggling with a bee, and captured both alive. What is it? JESSE COOK.

Salem, Iowa, Aug. 16, 1880.

[It is *Asilus Missouriensis*, a two-winged fly of the *Asilidæ* family (see Cook's Manual, page 268). It attacks the bee, taking it away in captivity, and then feeds upon its fluids.—ED.]

A Freak.—An Italian queen, introduced into a nucleus, left, going into a colony of hybrids, destroying its queen, and in 30 days it was Italianized. There are 400 colonies within 12 miles.

R. CORBETT.

Manhattan, Kans., Aug. 16, 1880.

Correspondence.

For the American Bee Journal.

One Day's Work Extracting.

L. C. ROOT & BRO.

On page 367 of the AMERICAN BEE JOURNAL for August, friends McLean & Son speak of taking 1,153 lbs. of honey in one day with one machine, and ask who has done better. We acknowledge we are not very ambitious in regard to such matters, but as we have probably had as much practical experience in extracting for the past 10 years as most bee-keepers, having often during our hurried season taken more than the amount named, we will say that on the 29th day of June we took from 56 colonies 1,565 lbs. This apiary was about 4 miles from our home, and we did not commence work until about 9 a. m., and finished about 6 p. m. This account is without weighing the honey that drained from between 1 and 2 bushels of cappings. We cannot head our item as they do, yet we have taken 15,000 lbs. from 176 colonies, which, considering the almost entire failure of surplus with many bee-keepers in this part of the country, we think a very satisfactory yield. We consider this a pretty good proof of the superiority of modern over ancient methods.

Mohawk, N. Y., August, 1880.

For the American Bee Journal.

Duplicating Queens.

A. F. MOON.

This question ever keeps rising, like Benquo's ghost: How long is it to continue, in the utter hopelessness of obtaining any "satisfactory result?" In the August number of the AMERICAN BEE JOURNAL, Mr. Pike quotes his "card" to me, which read as he states, but not one sentence to give any surety that he would perform what he agreed to. Neither would he agree to bind himself to send his security. But he quietly remarks that Mr. Moon is trying to creep out of his proposition. The readers of the JOURNAL may remember my proposition, which was to give Mr. Pike 8 times the price of queens, besides paying all expenses in making the necessary test. Mr. Pike requested that I give security for the full amount; to this I responded that the necessary security would be placed in the hands of the Mayor of this city, and acknowledged good, and I then exacted a small security of him that he should perform his part of the contract; but this was bringing matters to a focus, and shows who is "creeping out," etc.

If Mr. Pike has this remarkable class of queens, why should he refuse to prove it, and give the small security asked of him to perform what he agrees. But rather than to bind himself to show that he has such "princesses," Mr. Pike quietly dismisses the subject.

The columns of the BEE JOURNAL have been open to this subject for nearly 2 years, and none of the advocates of queens invariably duplicating themselves have proved their assertions. I have been ready to do as I agreed, as well as to bind myself to perform, etc.; but when Mr. Pike was required to bind himself in a small sum to do as he agreed, he refuses to do so, as all others will who claim that they have such stock.

Rome, Ga., Aug. 12, 1880.

[Now both sides have had their "last word," etc., let it rest. Many of our readers are tired of the controversy, which is so fruitless in its results.—ED.]

For the American Bee Journal.

The Cyprian "The Coming Bee."

HENRY ALLEY.

Much is being said about "the coming bee." I have had Cyprian bees all the season, and find them to be all that is claimed for them. They are very active, industrious and smart. The workers are as beautiful to look at as the handsomest Italians. I have heard, in years gone by, that they were vicious, but I do not find them so. I can open a hive with much less smoking than I can either my Italian or Hungarian bees. The Cyprians will be in demand as soon as their superiority is known.

The weather the past season has been very favorable for queen-rearing.

Occasionally some one asks if queens can be safely introduced in September. They can be safely introduced at any time between April and November. I think my plan the surest and safest of any published. It is this: Unqueen the hive, and in just 72 hours (3 days) smoke the bees or sprinkle them with honey and water scented with peppermint or anything of the kind, and let the queen in. Do not put the queen near the hive till she is introduced; no hunting for queen cells. Let all try the above plan and they will succeed.

Wenham, Mass., Aug. 17, 1880.

For the American Bee Journal.

Ode to the Honey Bee.

MRS. A. M. SANDERS.

Welcome, thou ever busy bee;
Come in among my flowers,
And with thy cheerful hum beguile
The tedious summer hours.

I like to watch thy graceful flights
Beneath these shady bowers;
Then yield thee to temptation's spell
And linger 'round my flowers.

Here is a leaf of richest mole
Enfolding petals rare,
Shedding around its sweet perfume
On balmy summer air.

Come, draw from out their coral depths
The sweets that heaven distill;
Reluctant, then, I'll let thee go,
Thy waxen cells to fill.

But come again, thou beautiful
Italian, golden-hued;
Thy presence doth inspire my heart
With humble gratitude.

Oh! come: free access shalt thou have
To all my floral treasure;
Thy joyful singing takes me back
To childhood's time and pleasure.

When through the leafy woods I roamed
And fragrant fields of clover;
When every blossom swayed beneath
A honey-seeking rover.

And then, the ever-fresh delights
My appetite afforded;
By feasting on the honeyed sweets
The bees so neatly hoarded.

Oh! gentle bee, come help me feel
Imagination's power,
By lulling me to sweetest dreams
Of childhood's happy hour.

Sheridan, Mich.

From the Bienen Zeitung.

The Several Races of Bees.

REV. DR. DZIERZON.

Since we have become acquainted with the various foreign, and somewhat different colored races of bees, apiculture has gained greatly in interest and profit. Many questions, upon which views greatly differed in former times, can now be solved in a simple manner. If Baron Ehrenfels was alive to-day, he would not dare to argue his former opinions in regard to the duration of the life of worker bees, viz.: that it could reach the age of the queen if it escaped all threatening dangers—consequently could live several years. For whoever has experimented with queens of differently colored races, has learned how rapidly the bees perish, and that in the season of activity, scarcely six weeks will pass away before the former generation will have passed away, to make room for a new. That the fructification of the queen takes place only outside of the hive, and frequently at a distance from the same, and that she can lay eggs without being fertilized, concerning which disputes were formerly carried on with a good deal of feeling. Since the introduction of the Italian bee in particular, these will not be questioned. Such an important correction and enrichment of the theory, could naturally not exist without exerting its influence in regard to practice, and necessarily it was forced to elevate the advantages of management indirectly.

But the introduction of foreign races of bees also furnishes direct advantages, inasmuch as some of them possess valuable qualities not found in the domestic race.

The common bee, cultivated throughout the greater part of Germany, possesses, it is true, some excellent traits. It is a real honey-bee. One valuable peculiarity I find is the fact that young queens do not deposit any drone eggs the first year, and consequently the workers do not build drone cells.

When Herr Bruning, in the first volumes of the *Bienen Zeitung*, reported of "after-swarms," which, after they had only about half-finished their filling up the straw hive, again made preparations to swarm, by depositing drone eggs, it appeared to me more like fiction than truth, because at that time I was not aware of the anomalous peculiarity of the heather bee, among which colonies, with queens of the present year, prepare themselves, by depositing drone eggs, for issuing another swarm. This never happens with the common German bee. It is, therefore, not a swarm-bee, but in reality a "honey-bee."

But, in showing so little inclination to swarm, they make it unpleasant for an apiarist who desires to increase his apiary. Its irritability and stinging propensities also often renders the management of the apiary a disagreeable task. Although the true bee-keeper does not mind an occasional sting, one's good-nature certainly gives out when this inclination to sting degenerates into real madness; when every occupation, be it ever so pressing, must be suspended; when animals and human beings have to take to their heels far and near, and you are expecting every moment to see the police arrive and command you to remove the hives, so that the neighborhood may live in peace. For this reason it must be considered a great gain in apiculture to know of races of bees which, although possessing a sting

like our domestic bees, only make use of the same very infrequently, and then only when provoked in a high degree, and who are unable to fly into a passion like that mentioned above. As is well known, the Carniolan and Italian bees are the most gentle.

The first combines with its gentle nature a great inclination to swarm; the latter, extraordinary industry, great ability in resisting robbers, and plentiful honey gatherers, in which it is even superior to our domestic bee.

The advantages of the introduction of foreign races of bees are not only to be found within their inner good qualities and superiorities, but also in their color-markings generally. The color of the dress is of but little importance when compared with the ability to perform. But in bees the colored bands or marks are of no small importance.

A Hungarian bee-keeper explains, in his correspondence, that he thought the principal advantage of the Italian bee was the very light color of the queen, which facilitated finding her; but much further advantage exists in the fact that the more or less pure queens can be distinguished from each other by their lighter or darker coloring, which is shown by the following instance: To strengthen several colonies at my apiary in Carlsmarkt, having become much reduced during the winter, I took a number of bees from several strong colonies at my apiary at Bankwitz, and put them together into a small transportation box. Arrived at home, I made the unpleasant discovery that I had also shaken off a queen. The temperature being cool, the operation had to be performed without loss of time, and as I had gone into none of the hives as far as the brood-chamber, the usual abode of the queen, I had no idea that the queen could be upon the combs I had taken out. What was to be done? To what hive did this queen belong, as I had taken bees from 4 or 5? Out of this dilemma I soon extricated myself. Of those hives from which I had taken bees, 2 contained pure Italians, 1 nearly so, and only 1 contained mostly all black bees. I was at once convinced that this queen, being pretty dark, belonged to the latter hive. My supposition was confirmed. Going to the apiary next day, I found the hive in question indeed queenless. She was returned, was received joyfully, and the mistake I had made, and which might easily have occasioned the loss of a good colony, was rectified.

When the queen of a swarm falls to the ground, or on returning from her bridal trip she strays into the wrong hive, she can be safely rescued from the bees closing around her, or if she drops to the ground unnoticed, when lifting the frames from a hive, she can be found again. How important it is to be able to recognize at once to what hive she belongs, needs no comment. With only one race of bees this becomes very difficult. But having to do with one other at the same time, and especially with the strikingly differently colored Italian race, then one has so many distinctive marks to go by, not only on account of their size and the form of their bodies besides, but also because they are lighter and darker in coloring; that among a not too large number, a queen that has been seen once can almost certainly be recognized again, and if found away from her home, she can be placed back where she belongs.

Carlsmarkt, Germany.

For the American Bee Journal.

Fertilization in Confinement, Etc.

W. W. BURNET.

I have been waiting to hear from some one who has tried the Hasbrouck method for fertilization in confinement. Is it possible no one has met with success? I made several attempts; cut a hole in the head of a barrel, tacked glass over, placed a queen and drones inside, and as far as the queen was concerned it worked well, for when placed in the sunlight every queen I experimented with flew nicely. Some would alight on the glass awhile, and then take wing and circle round and round the barrel, but the drones would not fly, obstinately crawling on the bottom. I noticed one queen, that I left in the barrel at least half an hour, fly down repeatedly to the drones and then back to the glass. Now, I am certain if the drones had taken wing the experiment would have succeeded. It may be, some one else has met with better results, and I would be glad to hear their experience in the BEE JOURNAL.

I desire to return my thanks to you and the many friends who sent me remedies to assist me in my fight with the ants. I intend to place all my hives at least a foot from the ground, and either place the legs in pans filled with water and carbolic acid, as Prof. Cook suggests, or else wrap rags around them saturated with tar. I find with hives placed on boards near the ground, the ants have a fine, dry place to harbor under the hive, and they utilize it.

One of our most successful apiarists, Mr. Ole Olesen, leaves us this fall for Florida, to engage in the business there.

Bee-keepers here are generally going to attend the Cincinnati Convention.

We feel glad that interminable discussion about queens duplicating themselves is at an end.

We hope Prof. Cook will give the Cyprian bees a trial, and then report as to their qualities—good, bad and indifferent. A report from him would carry more weight with it to the bee-keeping fraternity than a dozen reports from supply dealers or persons interested in the sale of these bees.

We hope the Convention at Cincinnati may be a perfect success, and I have no doubt it will, in spite of that Northeastern breeze.

Lagonda, O., Aug. 3, 1880.

For the American Bee Journal.

Honey Show and Markets in England.

W. M. HOGE.

Forty-three miles from London, on the right bank of the Thames, in one of the most beautiful parts of the county of Berks, is situated the ancient town of Windsor, where Queen Victoria lives when she is "at home." During his life the late Prince Consort established the "Windsor Association for Improving the Condition of the Working Classes." It is expressly stated that this is not an eleemosynary institution, nor does it purpose to relieve the distressed; its object is to stimulate and cherish the spirit of industry, and thus to raise the social condition of the laboring classes, and it gives rewards for past and encouragement to future exertions.

The association arose from a desire expressed by H. R. H. the Prince Consort, to bestow some mark of favor on cottagers in and around Windsor who are diligent in keeping their homes tidy and cultivating their gardens well. The association also provides encouragement for the cultivation of any honest skill or useful talent. For this purpose an exhibition is held at the annual meetings for garden produce of every kind, and handicraft, whether in works of taste or usefulness, executed by cottagers, are awarded prizes for the best specimens. The Queen, who fosters with great affection all such institutions which were inaugurated by the great and good Prince, continues to be the liberal supporter of this association.

This week the British bee-keepers, under the distinguished patronage of H. R. H. the Princess Christian, held an exhibition in the enclosure of the Prince Consort's Association, of bees, hives, honey and bee-keepers' appliances. A military band was in attendance, and prizes to the amount of $80, a silver medal, a bronze medal, and a certificate, were distributed by H. R. H. the Duke of Connaught.

The bee-tent was raised, in which the usual interesting manipulations occurred, and practical lectures were given. It is a wonder to me some enterprising American has not constructed one of these bee-tents, and attended the various fairs and bee conventions in the United States, delivering lectures upon bee-keeping. I am sure there will be a harvest of money for whoever goes into such an enterprise. I could make no display of American honey, because the rules permitted only this year's production to be shown for competition. This being a very favorable season, the show of English honey was much better than those last season.

The markets are rather barren of good extracted honey; there is no California to be had, except some dark stuff in a sort of semi-candied, fermented condition. In London, this week, 38 brls. Chili honey, pile x (*i. e.*, extra white) sold at public sales, brought 9½c. per lb., while 120 brls. and kegs West India, pile 1 (*i. e.*, about the color of goldenrod), sold at 8½c. In Liverpool, this week, Chilian met a ready sale. About 1,000 brls. sold at 10c. per lb. for the pile x (or extra white), amber or pile 1 brought 9 to 9½c., and pile 2 (a grade darker in color), sold at 7½c. American beeswax is selling at 26 to 29c., according to color. Extracted honey and wax are offered regularly once a week—on Tuesdays—at the public sales in Liverpool and London. These articles are sold for cash in one month, or if paid for within 14 days a discount of 2½ per cent. is made. The prices are regulated, of course, by the supply and demand. There is no demand here for dark honey; but so far as the lighter grades of extracted are concerned, this is a better market than the United States or the Continent. During the past winter and spring several consignments of California honey, originally sent to Hamburg, had to be brought here to be sold.

Windsor, England, July 13, 1880.

[The bee-keepers of the United States, as a class, are too intelligent and too progressive to place it within the power of any one man, traveling with a bee-tent and making a specialty of lectures on bee-culture, to realize a proper remuneration in return. On the library shelf of nearly every one interested in bee matters, can be seen a text-book devoted to bee-culture; besides, among his pe-

riodicals, the BEE JOURNAL or some other bee paper is a regular visitor. In many localities clubs are formed, and all the bee papers and desirable books are purchased, and these are passed around and read in rotation, and their contents discussed.—ED.]

For the American Bee Journal.

Comb Foundation—A Review.

G. M. DOOLITTLE.

I have not said a word about comb foundation since January, 1879, but have kept experimenting during the past two seasons. As much is said in last month's BEE JOURNAL in regard to foundation, I think a review of the foundation business up to date will not be out of order. Our first foundation was purchased of John Long (Wm. Hoge) about Aug. 1st, 1875, and was placed in boxes. As the bees did not obtain honey enough after that to finish them, we fed extracted honey to have them sealed over, after which we had as nice-looking box honey upon foundation as was ever before our lot to witness, when built from a starter of natural comb. We were elated till we came to cut it, when the septum was so hard that in trying to cut it the cells of honey on the under side were mashed fine. This, of course, would not answer, and we had to laugh to-day, in examining a piece of bleached foundation, which was sent out in 1877, I think, by C. T. Reynolds & Co., to be used in boxes. It is at least $\frac{1}{8}$ of an inch thick, running, I should judge, about $3\frac{1}{2}$ feet to the pound. Such was the starting point in the foundation business for comb honey.

In 1876 we bought a small quantity of A. I. Root. This we experimented with till we became disgusted, and had lost in time, money and honey at least $50. In our disgust we sat down and wrote friend Root about it, and our trials with it, and under date of Aug. 1st, 1876, we have this from his type-writer:

"You have, in spite of all that we said in *Gleanings*, been using the paraffine."

You can imagine how consoling this was, inasmuch as I had purchased said paraffine from him, without even a hint but what it was bleached wax. However, we obtained some more, warranted to be pure wax, and kept on experimenting, meanwhile expostulating with Novice that it was not a success. To prove to me that it was he writes, under date of Aug. 9, 1876:

"It has already grown into quite an industry, and we are using wax by the ton."

How came such an industry to grow up so soon? Simply by Novice's pushing it through *Gleanings*. After using the pure wax with no better results than we had with that purchased from John Long in 1875, as to the bees thinning it, we sent samples of the foundation, after the cells of honey were scraped and washed off, together with some that the bees had not worked upon, to Novice, at the same time writing an article to be published in *Gleanings*, giving all my experiments with foundation thus far, which proved conclusively that foundation was not a success for comb honey. Novice replied that the samples sent were "a great mystery to me," and that I was "putting my foot into it" in desiring said article published. As he opposed the article so strongly, I told him he need not publish it, and shortly after, on a card, told him that my experiments were conducted thoroughly, and held good in my locality, but that I could not reasonably expect him to publish them, as it would injure the sale of foundation, which was a part of his business. Under date of Sept. 22, 1876, he writes in reply:

"Do you really think, friend D., that because I am in the business, I would hesitate to give both sides? See next number of *Gleanings*."

Of course I expected to see my experments given in full. The next number (Oct. 1876) came; on page 245 we read:

"Mr. G. M. Doolittle is the next and last, and his claim that the thickness of the bottom of the cells is a serious objection is not worth debating, for tons of honey have been produced, and hundreds of bee-keepers have used the foundation."

Query: If such was the case, why does he advertise thin foundation to-day, and why the need of Van Deusen's patent on machines that will turn out 14 feet of foundation to the pound?

Time passes, and the next season (1877) finds us with 15 or 20 lbs. of foundation made from our own wax, for the first trial in the brood chamber. Always anxious for real progress we watched developments, both in our own apiary and in that of our bee-keeping neighbor, to whom we had given foundation; but the stuff sagged, so that there was nothing practical about it, and again the season ended with a loss to us of at least another $50, by the many experiments we had tried. Again I wrote Novice about our experiments, and here is his reply to my objections to it, as regards comb honey and its use in the brood chamber also. As to its use in boxes he says:

"It is utterly incomprehensible to me the way you stick to your old notions on the foundation. It has filled the markets with most beautiful honey."

To its use in the brood chamber he says:

"The whole world almost is rejoicing over the suc-

cess of the invention ; tons of it are in use ; brood has been reared in it three seasons, and so far as I know every objection to it has been overcome."

Query second: If this was all true, and foundation was such a success, why is he now using wired frames to prevent foundation from sagging ?

Again, the season of 1878 rolls around and J. H. Nellis shouts success. So our wax goes to him to be worked up, thinking surely it will go this time; but we again chronicled in our diary : "No go ; money out of pocket and still it sags badly, both with myself and neighbors."

After our article in the AMERICAN BEE JOURNAL for January, 1879, a few got the idea that foundation did really sag, so I had some sent me for trial, amongst which was some from Mrs. Dunham. During the height of the season this sagged some, though not so bad as that made by Root or Nellis ; but in the fall, during cool weather, I had some built out into nice combs. Yet, I could hardly call it a success, as it could not be used in every spot and place as a natural comb could. However, this was by far the best I had tried so far.

Seeing the following from the pen of J. H. Nellis, in the *Exchange* for Feb., 1879, page 30 :

"I said it did not bother me much sagging, but now we have a new kind that fills the bill, both for brood nest and surplus boxes, viz : flat bottom wired, and thin flat bottom not wired ; for this we shout, *Eureka!*"

I thought I would try some ; notwithstanding the Betsinger offer of $50 for a sheet of perfect brood over the wires remained uncalled for by any one. Accordingly the past spring we sent to Mr. Van Deusen for some of both kinds. The bees accepted the wired readily, and we soon had as handsome sheets of comb as we ever saw, without a particle of sagging ; but alas ! after a few weeks' time we did not wonder that Mr. Betsinger's offer had never been claimed, for nearly ⅓ of the larvæ over the wires died when from 2 to 4 days' old. They were removed for the queen to fill with eggs, only to have the larvæ removed again, and thus the matter worked till in time a sediment had accumulated over the wires. Finally, most of the cells contained brood, with but a few empty cells over the wires remaining to tell the story of scores of larvæ which had perished. Now if this fills the bill, we too can shout Eureka !—others can shout, we will keep still.

Novice says, on page 309, July number of *Gleanings*, in reply to Mr. Cheshire :

"Betsinger's offer was passed by, because most of us were too busy to take up such an offer."

That is too improbable. Mankind does not pass by a loose $50, that can be had for such a trifle, as a perfect frame of brood on wired foundation, if such a frame could be produced *according to Mr. Betsinger's proposition*. I saw Mr. Betsinger a few days ago, and he says his offer is still open for any one. On the same page (309) Novice says :

"Mr. Cheshire is most assuredly mistaken, if he means to say our fine tinned wire kills larvæ."

Now, I have never used it, but a friend says it is even worse than the Van Deusen ; so I see no other way for Novice but to claim the $50, or forever hold his peace.

About three weeks ago I received some foundation from John Ferris, made by the dipping process. As I wished to give it an impartial trial, I put it in the hive on a day when the mercury marked 92° in the shade. In 48 hours I found the bees had the cells drawn out ½ their length, with some honey in them and plenty of eggs ; also, by measurement, it had not sagged or warped a particle. In fact, they were just as perfect as those on the Van Deusen wires, or any we had ever seen.

We also tried the thin Van Deusen, on the Cheshire plan, and had fair combs built, but the bees bridged the wax out on the teeth or pins so far, that in removing them the combs were badly hurt. This foundation for comb honey is all right, so far as finding any fish-bone is concerned, for, from repeated experiments, I cannot find any difference between honey built upon that and from a starter, as regards the septum to the cells. In the height of basswood bloom, the bees would fill a box having a starter of natural comb as soon as they did those with foundation ; but where honey comes slow, the foundation has a decided preference.

Thus, the readers have our experiments during 6 summers, which have cost us at least $200. Of course, my experiments with the Ferris foundation are not all that I could wish, to adopt it for a certainty, but I predict for it a grand future—in fact, a success. Why? Because for foundation to be a success it needs 3 essential elements, viz : 1. It wants to be so you can use it in every place wherein you can use a natural worker comb ; 2. It must be produced as low as 50c. per lb. ; 3. The machine must be so cheap and simple that every bee-keeper having 10 colonies can afford to own one to work up his own wax. The Ferris plan comes the nearest, if it does not quite fill this bill, of anything I have tried.

If I should say that so far, outside of supply dealers, there had been more money sunk in foundation than was ever made out of it, I should not be far from the truth. How many there are

that get crazy over the bee business; spend their hard-earned dollars coined in some other calling, for bees and supplies, only to sink the whole and turn from the business in disgust. Again I would repeat what I have written before: "If you buy bees, do not go to an expense of over $40 or $50, and do not lay out any more on them after that than they earn you, remembering that if you cannot make 2 colonies pay, you cannot 200; and if you fail you can console yourself that you have lost only $40 to $50, instead of $400 or $500.

Borodino, N. Y., August, 1880.

For the American Bee Journal.

R. L. Meade and Supplv Dealers.

REV. A. SALISBURY.

In the July number of the AMERICAN BEE JOURNAL, page 342, over the signature of R. L. Meade, I find the following, also a reference to the same in the August number, page 389:

It is my duty to say, that during 3 years I have only found T. G. Newman & Son, A. I. Root and G. M. Doolittle to be punctual in filling orders for the respective articles they advertise.

Of course Mr. Meade does not expect us to understand that he has dealt with all the supply advertisers and found them to be defaulters, or not up to time, except the 3 named.

But may our friend not be mistaken about his "duty," in giving notice of an existing evil, but not to tell the public where the evil lies, leaving all liable to censure, 3 excepted? I wonder if our friend has dealt with 3 outside of the excepted ones.

[It will be remembered that we stated that Mr. Meade gave the names, but that we had omitted them purposely, out of a sense of justice to them and others. We stated in that issue of the BEE JOURNAL that we considered Mr. Meade's plan quite impracticable, and that the "buyers" were *sometimes* more at fault than the "dealers." We have no doubt but that those whose advertisements are admitted to our columns are among the honest and conscientious dealers. If we were not thus persuaded, we should not insert their advertisements. But misunderstandings, unpropitious weather, and many other things, sometimes prevent the realization of the expectations of those who send orders, and hence the "nervous" are often disappointed.—ED.]

For the American Bee Journal.

Where Honey Comes From—No. 6.

WM. TRELEASE.

At one time it was customary to consider all provisions of nature, which in any wise promote the interests of mankind, as specially devised for our benefit; and the fact that many flowers by their beautiful colors and fragrant perfumes delight our senses, while their copious store of nectar needs only to be collected and elaborated by the bees to become our food, may seem to warrant this view of the case. Were no other facts than these at our disposal we might, perhaps, consider the explanation sufficient; but if the testimony of the rocks is to be credited, beautiful flowers and nectar-loving insects lived ages before man existed to profit by the beauty of the one or the industry of the other. Moreover, Xenophon and Pliny's accounts of the poisonous effects of a certain kind of Asiatic honey, and St. Hilaire's experience with that stored by a South American wasp, taken in connection with the well-authenticated cases of poisoning by the honey collected from certain of our own native plants, show that in some cases this substance is gathered and used by insects when it can be of no use to human beings; and the study of biology reveals so many facts which tend to prove that man has not been exclusively considered in the production of even the things that he enjoys most; that it is now by no means considered a satisfactory explanation of any natural phenomenon to say, merely, that "it is for our good;" rather, so close is the inter-dependence of beings widely separated in the scale of Nature, that we expect to find any well marked structural or functional peculiarity of a living being not only of vital importance to its possessor, but entailing equally marked peculiarities in other creatures that are thrown in contact with it. Let us carry this idea into our study of the origin of a sugary secretion by certain parts of plants.

Certainly, so many honey-producing flowers bloom far removed from the influence of man, that we cannot regard the secretion as connected primarily with his needs; but we do know that its production is very essential to the well-being of certain insects, and that these are invariably found where nectariferous plants naturally grow in abundance. It has been well said that where free lunches are provided some advantage is generally expected from the treat, and in the case of nectar-bearing flowers, this appears to be their fertili-

zation; for there is not a flower of this sort that is not of such a form that some insect in removing its nectar *must* transfer pollen from the stamens to the pistil, thus fertilizing the latter; and, more than this, many flowers are so constructed that they are absolutely sterile without this aid, and a large number can only be fertilized by insects which go from one flower to another, for, though each may contain both stamens and pistil, these organs are often so arranged that the stamens of a given flower are brushed by the insect after it has touched the pistil, so that the pollen to fertilize the latter must be brought from another flower, while in others the stamens and pistil come to maturity at different times, so that in some species the younger flowers are always fertilized by pollen from older ones, and in other species the older flowers are dependent upon the younger ones for their fertilization. The scarlet geranium, which was described in our first article, belongs to the latter class, and we propose next month to show how it profits by the secretion of nectar in the spur of its calyx.

For the American Bee Journal.

Extraordinary Work on Foundation.

E. A. MORGAN.

I am having a large yield of honey this year—the best ever known. I have had full sheets of Dunham foundation drawn out in 2 hours, and 2 lbs. honey stored in it. It is surprising to me, but true. It was accomplished in a 4-Langstroth frame nucleus, from my best colony, and was filled with hatching brood for the purpose of hatching and rearing a choice queen from the cell. They were crowded with a division board; the queen hatched in 6 days, mated on the 13th, and began laying on the 16th day, when I noticed that the combs were bulged and full of honey, there being a bounteous yield of honey during the time. On the 18th day, at 9 a. m., I spread the combs and placed between them a full sheet of Dunham foundation. I noticed the bees run for it at once, and that they were exceedingly crowded, and also that the queen was very lively, and laying in short cells along the bottom edges of the combs. I then closed the hive. The weather was foggy and very dark, and no bees flying, although the day previous was the best I ever saw. At 10 o'clock the fog cleared up, and the sun came out hot and sultry. At 11 I had a swarm come out, and having no foundation, ran to the nucleus to get this sheet, expecting to cut and use it for starters. Judge my surprise to find it worked out 1 inch thick to the very corners, and honey in both sides over ⅔ of the surface. The bees during the time from 10 to 11 appeared to fairly roll into all the hives. I find usually it takes new swarms 12 hours to draw out full sets of combs.

I used many styles of foundation, and had much sagging, twisting and breaking down until I tried the Dunham. Since then I have used 500 sheets full size, and never had one break down, twist, or stretch and sag a bit, and when drawn out they look as even and straight as a board.

I use sheets weighing ¼ of a pound, 9x17½ inches (Langstroth frame), and prefer it 1 year old, as I notice that wintered over was accepted more readily than the new. The wired foundation answers every purpose, the price only makes it undesirable.

The bees in this vicinity have done remarkably well, and put up surplus in May, June and July without ceasing. I have taken 200 lbs. of comb honey from one colony up to date, and they are still working in 42 new sections. They fly in one continuous stream from light until dark, and fairly tumble in.

I have no foundation mill or interest in any, neither have I any friends so interested, and have no preference for one kind of foundation more than another until tried.

Arcadia, Wis., Aug. 11, 1880.

For the American Bee Journal.

One More Spool of Cotton.

E. E. JOYCE.

Last winter I saw Mrs. Lizzie Cotton's advertisement in the New York *Tribune*, and sent her my address, after which she sent me her circular. From statements made there I thought the road to wealth extremely smooth to those who kept bees on her plan. I had never had anything whatever to do with bees, but felt confident I could learn, so decided to try bee-keeping. I could have bought a colony in my own town for $6, but as I wanted to have the very best, and also all the necessary appurtenances, I sent her, on March 22d, a money order for $20, her price for "a colony of Italian bees in the 'controllable hive,' with all the fixtures, receipt for food, printed instructions," etc. Receiving no acknowledgment of the order, after waiting 2 weeks, I wrote to her, but failed to get a reply; at the end of another week I sent her a postal card. She then admitted she had received the

order. and said the bees would be forwarded as soon as the weather was suitable. The bees came April 3d. in what seemed to be the bottom of a hive. being a box with 2 partitions: in the centre the bees. with only a covering of wire-cloth. I supposed the rest of the hive for some reason had been delayed on the way. As it was Friday night. and we had 3 mails before Monday. I decided to wait. feeling sure the mail and express would not both fail. as she had not sent me the printed instructions. As neither brought anything. on Monday I wrote her of the condition of the bees. that I feared they would die if kept confined as they were. and that I had received no instructions how to care for them; but she did not notice my letter. I was then convinced she was a fraud. and hired a carpenter to make a hive over the bees as best he could. I then placed them on the stand. They had been confined 10 days: a great many of them had died. leaving not more than a pint. and they have yet done nothing. neither do they seem to increase or diminish. If there was no queen would they not all have died before this. and if there is a queen why do they not increase?

Mrs. Cotton advertises she has made arrangements with the express companies whereby she can send her hives to any part of the country at the rate of $2 for every 1,000 miles. At that rate charges from Gorham would be less than 25 cents. I immediately wrote her I should not accept what she had sent me as a "complete outfit," and unless she sent me everything that belonged to her "controllable hive," I should expose her. She then sent me a clumsy top for the hive. and an old feeder filled with dust and dead bees. Surplus honey boxes. of which she says 30 fit her hives. she would not send. for if she should. I would expect them filled with honey;" though in some instances I have heard of her sending her customers one as a sample. but she sent none to me.

When she sent the top and feeder she wrote for me to send back the plan. or to send $4 to pay for it. as that was what she sold them for. I have sent neither the plan nor the $4.

The express charge on the bees was $1: on the top and feeder. sent 3 weeks after. 75c: for 4 lbs. of honey for the bees while shut up. $1: material and work on hive $5. So that a pint of bees. in a very ordinary hive. have cost me $27.75 in cash. besides all the vexation.

For the benefit of persons who may be as credulous as myself. I hope you will publish this statement.

Skowhegan. Maine. July 24. 1880.

For the American Bee Journal.

Comb Foundation Again.

JAMES HEDDON.

Right glad was I to find a test of foundation. and editorial remarks on my article on the above topic in the August number of the AMERICAN BEE JOURNAL. I am glad so many are experimenting. for the exact truth will surely come to all by-and-by. and that is what all of us (who are honest) want on all subjects.

Am I to understand. by your remarks. that you can keep foundation straight in the frames without wires or any such device? I never could do it in a single instance out of many trials—not even the heaviest Dunham. which is by all means the best I have tried. Besides. I do not want to *keep* it in place. I only want to *put* it in its proper position when the swarm is put in. and then know that it will keep *itself* there forever. Now. these Given-pressed wired frames of foundation do this every time. and no others will. By the way. you did not put a large or double prime swarm on 8 or 10 sheets of it. as we have done with some 50 this season. If you do. you will wish for wires or a sweet and patient disposition. when you open these hives 48 hours afterward. We placed many sheets of Dunham. Given and Root foundation side by side. both in hives and sections. and while we found a marked preference for the Dunham and Given foundation over the Root. we could see none between the Dunham and Given. The first experimental hive opened showed a decided preference for the Dunham: in the second the preference expressed was about equal; in the third. the preference was as much in favor of the Given as against in the first. After going over some 10 or 12 prepared purposely to test their merits as cells of foundation (not as foundationed frames. for in making those—*i. e.*. making foundation *securely* in frames—the Given press has no competitor). we came to the conclusion that the merits of the foundations were as nearly equal as could well be. Inasmuch as it is a fact. that not one hole has ever been gnawed in one Given wired-frame of foundation. I am well satisfied that something was the trouble with the wax. or the non-sticking solution used in pressing the sheets. I agree with you. that wired foundation (out of frames) is an article not to be desired.

I was forcibly reminded how much behind our British cousins are. when I read Mr. Cheshire's article. on page 372 of the August BEE JOURNAL. contain-

ing statement after statement that is the exact reverse of the experience of many of our leading apiarists in this country. He talks about "pulling out the wires:" yes, I thought of that once, but I am now happy to say these wires stick with a tenacity beyond all calculation, and that is a splendid point in their favor. I would not have the wires withdrawn from my combs for 50 cents per hive. I know that a No. 36 tinned wire sunk down *level with the surface of the septum*, will cause no trouble whatever to bees or keeper.

In your kind editorial remarks in regard to the sheets and comb I sent you, you forgot to say that the comb contained a large patch of eggs, and that the wired cells were laid in *regularly*. Perhaps you did not look at it. Please observe and note the fact.

I hope you will find out the trouble in your last experiment, and make another, which I fully believe will show up the Given foundation in its true light. I feel enthusiastic over this invention, and so will every honey producer who knows the advantage of full sheets of all-worker foundation, and never could make such self-sustaining, where full swarms were hived upon them and the hive closed for the season if need be, with any other device.

Dowagiac, Mich., Aug. 7, 1880.

[True; what we want is the *exact truth* on this, as well as every other subject, as Mr. Heddon justly remarks—we have no other thought or wish in the matter. It is very pleasant to agree with our friends, but no *honest* man will sacrifice truth to friendship, and we know Mr. Heddon would scorn such an idea. We do not quite arrive at the same conclusions, yet it is none the less in the interest of science, or of advantage to apiarists, to have these experiments so independently carried on.

Our experiments with the Dunham foundation, as well as the testimony of others who have used it, proves conclusively to us, that it will neither sag, warp nor twist, after being properly fastened in the frames. Some foundation has been made and sold this season in which the cells were pulled out of shape by being made on an imperfect machine, which was condemned and returned to the manufacturer as imperfect—these are the only ill-shaped cells we have noticed.

A large or double "swarm," being fully charged with all the material necessary, will accept anything in the line of foundation, and build out the cells very rapidly. Our experiments were conducted in normal colonies, so as to arrive at the facts under such conditions.

In the BEE JOURNAL for August, 1879, page 341, while noticing a frame of wired foundation sent us by Messrs. Blood, we stated that "the queen had utilized nearly every cell by depositing an egg in it." We have never doubted that eggs are placed over the wires. We unintentionally failed to state that we noticed the eggs in the sample sheet sent by Mr. Heddon.

Of course we have made further experiments, and the result may be found in the editorial columns of this issue of the JOURNAL.—ED.]

Honey Harvest.

The Present and Prospective Crop.

SPECIAL REPORTS.

I have not had one pound of honey to date, and no swarming. My bees have struggled to live during the whole summer, which has been one of extremes—wet, hot and cold. If buckwheat should give us no honey, then we will have to feed largely to save our bees. I think all the bees in this part of the State are in the same condition. For thirty years a bee-keeper, I never had but one total failure before this season; that was the summer of 1865. R. DART.

Ripon, Wis., Aug. 8, 1880.

I put 31 colonies in fair condition in the cellar late last fall, after preparing them for winter. About the last of February I set them out on the stands in their old places; all alive, and all but 2 with considerable brood. One of these had reared a young queen, which had not mated; I killed her and united the bees with the other colonies. The other was almost out of honey, but had plenty of moldy pollen. The bees were getting dysentery, but a few feeds of loaf-sugar syrup put them in order. I sold 1 colony in May, which left 29 to start the season with. I have at present 44 colonies, and over 30 small nuclei, most of them with

nice laying queens. I have taken 1,500 lbs. of linden honey; no surplus before the linden blossomed, which commenced about the 23d, and by the 25th they were gathering rapidly. Bees are doing well now, but using all the surplus in brood-rearing. M. Bailey.
Winterset, Iowa, Aug. 2, 1880.

My bees have done poorer than I ever knew them to do before; swarming out of their hives, and gathering nothing, till, I might say, now they are starving.
J. Campbell.
Princeton, Ill., Aug. 2, 1880.

Out of 14 colonies I have only 24 lbs. of comb honey, and no swarms worth mentioning. The season in Eastern Indiana and Western Ohio has been very poor for bees and honey. Abe Hoke.
Union City, Ind., July 28, 1880.

I now have 450 colonies. I have shipped 1,200 lbs. comb honey and 1,500 lbs. extracted to Mr. Muth. We have had too much rain and cool weather, but as our great honey flow is from August 15 to October 5, I hope yet to obtain much more honey. I have not succeeded with the tin separa-tors in the sections.
O. M. Blanton.
Greenville, Miss., July 26, 1880.

Honey crop of 1879: In sections, 2,700 lbs.; extracted, 2,400 lbs.; total, 5,100 lbs., from 45 colonies; 100 per cent. increase. Crop of 1880: extracted, 2,000 lbs.; comb, 100 lbs., from 90 colonies, and 60 per cent. increase. Surplus from raspberry, clover and basswood. There is no fall flow in this section.
J. B. Hall.
Woodstock, Ont., Aug. 3, 1880.

Comb honey, white, 1,100 lbs.; extracted, white, 400 lbs.; no dark honey. Number of colonies in the spring, 69; number at present, 94. D. J. Peck.
Harford, Pa., Aug. 3, 1880.

Our honey crop in this section will probably average about 5 lbs. per hive so far; but the prospect is good for fall honey. J. V. Caldwell.
Cambridge, Ill., Aug. 2, 1880.

My yield of honey for this season is 1,200 lbs., all in the comb, and nearly all from basswood. The prospect for a fall crop is fair. I expect 400 lbs. more. I have 78 colonies in good condition. The yield is ½ an average here.
Saml. Stevenson, M. D.
Morenci, Mich., Aug. 3, 1880.

The prospect for my honey crop is at present not very hopeful. I have about 100 lbs. of very nice honey in sections, and about 5 gallons of extracted. I had 42 colonies in the spring, and have had 22 swarms. The weather has been too hot and dry here. I do not expect over half a crop. E. E. Hardin.
Scotia, N. Y., Aug. 3, 1880.

My 30 colonies in the spring have increased to 58; white comb, in prize boxes, 750 lbs.; white extracted, 1,300 lbs. Should the fall be favorable, as it now promises, I shall have some 1,000 or 1,200 lbs. more of dark honey.
W. C. Ranney.
Elbridge, N. Y., Aug. 3, 1880.

My crop of white honey this season is only about ¼ of what it ought to have been. I have but 900 lbs. from 40 colonies in the spring. All box honey, and very good; no extracted honey. I know not what the fall crop may be.
A. L. Edwards.
Skaneateles, N. Y., Aug. 3, 1880.

The honey crop here is an entire failure thus far this season. The same I believe is true of the whole surrounding country, as I have heard from apiaries for several miles in each direction, while further north and east, in some locations, they seem to have done better; though I believe all bee-keepers are unanimously of the opinion that white clover failed to secrete honey. If the hives do not fill up on buckwheat, we shall have to feed or kill.
J. P. Moore.
Binghamton, N. Y., Aug. 4, 1880.

Last spring I had 20 colonies, which increased to 30 by natural swarming. I have obtained 70 lbs. of light honey in the comb. Will report the fall crop hereafter. G. W. Thomas.
Easton, N. Y., Aug. 4, 1880.

The honey crop here is a failure this year. One bee-keeper reports about 100 lbs. from 30 colonies; that is the most I have heard of. There was no basswood of any account. I have here 11 colonies, and had but 10 sections (5x6x2) nicely filled. Our apiary, located at Lodi, N. Y., between Seneca and Cayuga lakes, contains 100 colonies. We have obtained 9 brls. of extracted, and a lot of box honey, I do not know just how much. One colony gave 100 lbs. of extracted linden honey in one week. Best wishes for the success of the Bee Journal. S. S. Bristol.
Galesburg, Mich., Aug. 4, 1880.

There will be no surplus honey from this section. W. W. BURNET.
Lagonda, O., Aug. 3, 1880.

I have extracted 4,000 lbs. of white clover honey from 70 colonies—an average of 57 lbs. per colony—and am well satisfied with the crop.
P. T. GRIFFITH.
Danby, Vt., Aug. 4, 1880.

We have had 3 unfavorable seasons for honey here, in succession. I have not witnessed the like in 28 years. I have a small yield from linden, but it is not yet sealed. It is of nice quality.
J. M. RYAN.
Bloomfield, Ala., July 26, 1880.

I have now 60 colonies. The white clover yield of honey was good, but short. I have extracted about 500 lbs. of white clover honey, and have about 100 lbs. of comb honey. I expect the fall crop of dark honey will be ⅓ more, making about 900 lbs. in all from 60 colonies, thus averaging 15 lbs. from each, besides the increase. O. L. SAWYER.
Gardner, Me., Aug. 4, 1880.

I had 80 colonies last fall; have now 130. No honey till June 20. White clover was a failure, but basswood was good. We have not had any fall honey for 2 years, and I do not know that we shall this year. I have extracted 250 lbs., and have about the same amount of comb honey; all white. There is probably as much more on the hives. If Mr. Doolittle's advice in the July number had been given in May, it would have been worth $25 to me. I hope to be benefitted by it next year, if I continue to live. My best wishes for the JOURNAL.
THOS. TRACY.
Nashua, Iowa, Aug. 4, 1880.

"What shall the harvest be?" is a question the answer to which I contemplate with much interest, as to me it is of much importance indeed, and involves a point of life or death, either in feeding my bees at a heavy outlay of expense, in order to preserve their lives, or let them die of starvation, or the more humane one of brimstone. From my 50 colonies in the spring I have had 2 swarms, and not one ounce of honey, and in the whole apiary I do not think there is to-day 150 lbs. of honey—say, 3 lbs. to the colony; but every hive is full and running over with bees. I do not see any prospect for a fall crop, sufficient to winter on, much less for a surplus. F. W. CHAPMAN.
Morrison, Ill., Aug. 5, 1880.

I commenced the season with 9 colonies; increased to 30; have extracted 75 lbs., and now have taken off 500 lbs. of comb honey. We generally have a large crop of fall honey.
L. D. ORMSBY.
Pierpont, O., Aug. 3, 1880.

In this immediate locality honey will not average more than ½ a crop. While some may do better than that, a great many who have sometimes had good crops, will get but a very small amount in shape for market. G. W. STANLEY.
Wyoming, N. Y., Aug. 3, 1880.

I report for Cass county, myself included, and think Southern Michigan is about the same: Early crop, ¼; prospects for fall crop hardly average. During clover bloom too wet and cold. Only one class of our basswood trees blossomed, thus making the bloom of only 9 days' duration. We hope to make something over half a crop for the whole season. JAMES HEDDON.
Dowagiac, Mich., Aug. 4, 1880.

So far we have only about a quarter of a crop of surplus honey, and ¼ of a supply for winter stores. A drouth cut off our summer harvest, and now another one has cut off all reasonable hope of a fall harvest. D. J. W.
Warren Co., Pa., Aug. 3, 1880.

I have just looked over my colonies, and find my strongest have not over 5 lbs. of honey; the weakest not 1 pound. I have no surplus. The white clover (our main dependence) was all winter-killed. I shall either have to feed or kill, this fall. I have not seen such a failure in 15 years. In Kane county alone 1,000 colonies are in about the same condition. GEO. THOMPSON.
Geneva, Ill., Aug. 5, 1880.

My honey crop for 1880 will foot up about 2,700 lbs., of which 2,000 lbs. is comb, and 700 extracted, nearly all light honey. From fall flowers we expect nothing but a help to wintering—no surplus. I have 58 colonies.
CHAS. S. BURT.
Bucksville, O., Aug. 6, 1880.

The honey season so far has been an entire failure. I have not obtained any surplus, and but 3 natural swarms from 115 colonies. My bees wintered without loss, and were in splendid condition for the honey harvest. I use A. I. Root's chaff hive. A. F. STAUFFER.
Sterling, Ill., Aug. 6, 1880.

My bees have gathered no surplus. If they gather enough from fall flowers to winter on, it is all I expect. My neighbor, who has between 100 and 200 colonies, says he will not have 500 lbs. of honey. W. N. HOLMES.
Wyoming, Iowa, Aug. 3, 1880.

Bees have gathered but little surplus honey. It has been so dry since July 20 that they have not done much. Increase is plenty. W. L. FRENCH.
Martinsburg, Mo., July 26, 1880.

We had a profusion of white clover bloom during June and the early part of July. Bees did not work on it with great animation, owing, I suppose, to meagre secretion of nectar. The honey crop will not exceed 25 lbs. of extracted, nor 10 lbs. of comb honey to the colony. I do not expect surplus from fall flowers. I have no buckwheat. My bees are in good condition. G. GREEN.
Mt. Lookout, O., Aug. 6, 1880.

The honey crop is a total failure. Aug. 5th—Goldenrod in bloom, and bees carrying out brood for want of food. Aug. 7th—A little honey. Aug. 8th—Quite a flow of clear, light honey. The prospects for fall honey are good. The lilies that grow in the river are in bloom now, but I have never been able to ascertain whether they yield honey.
MRS. L. HARRISON.
Peoria, Ill., Aug. 9, 1880.

I have taken no surplus and have not divided, except a few that I broke up for nuclei, and I have not had a swarm to my knowledge. They have had good attention, wanting for nothing but nectar, of which we had but a few days to amount to anything. This they have used up for breeding. Unless we have an immediate change we shall be compelled to say, "The harvest is past," and our bees are not saved. I have about 75 colonies, large and small, about 55 being in fair condition; 35 of them are bright Italians; 31 of these I bought last spring for $200. My expenses were heavy for hives and supplies, which I have on hand, as I had no use for them this year. I am a little discouraged, but shall stick to it as long as there is a bee and sugar to feed. My Italians will work when the others will not. My intention was to do away with the blacks, but I guess they will save me the trouble by doing away with themselves. The yield is not more than ¼ of a crop. I wish the BEE JOURNAL. success.
BARTLETT Z. SMITH.
Tuscola, Ill., Aug. 9, 1880.

The honey crop in this section will not exceed ¼ that of last year. White clover was a total failure; basswood lasted but about 3 or 4 days. No fall crop is expected. Bees are in good condition, and are now doing well.
C. B. WOODMAN.
Farmington, Wis., Aug. 8, 1880.

I had 132 colonies in the fall of 1879; 38 were wintered in the cellar, and 94 on the summer stands. Of those out of doors I lost 2 by desertion; of those in the cellar, 1 was destroyed by mice, and 5 by desertion after they were put out on the summer stands, giving 124 as my working force this summer. Of these 20 were run for box honey, and I have taken so far 105 lbs., and will perhaps take off enough more to make 7 lbs. per colony. I run 104 colonies for extracted honey; they yielded 5,166 lbs.—very near 50 lbs. per colony. I extracted up to July 14, when the basswood gave out. Some of those last extracted may have to be fed a little, but I cannot tell positively, as they are gathering a little buckwheat honey; the prospect is, they will gather enough to winter on. I received 60 swarms this year, making 187 this fall. In the spring of 1879 I let 38 colonies out on shares; this year they gave me 819 lbs. extracted as my share, making in all 6,090 lbs. of honey, of which only 105 lbs. is comb. If the bees gather enough this fall to winter on, I shall call it good for this year. My bees were never in better condition than now. I had to feed 1,500 lbs. of honey this spring, continuing it up to fruit bloom; feeding so heavily produced a great many bees, so by June 5 (the usual time clover blossoms) my hives were crowded with bees ready for work. But alas! there was no clover to speak of, and what little there was yielded no honey. Bees worked on everything that had any sweet in it until basswood blossomed; that gave them 15 days' work. We had several rainy days in the harvest, which lessened the crop some. We took out all the honey (which was as dark as poor molasses) just before basswood blossomed, to have the combs perfectly empty and clean for the white honey. Two extractings of basswood and we were done. All around here the white clover was killed out, but the ground is well stocked with clover now that has come up from the seed. The prospect is good for next year's clover, if the winter is favorable; but should it be killed again next winter, and no seed this year, it will be a long time before we shall see our usual amount of clover honey. E. FRANCE.
Platteville, Wis., Aug. 9, 1880.

I think my entire crop will be 700 lbs.—200 lbs. light, and 500 dark. I have 15 colonies. W. P. Stephens.
Blissfield, Mich., Aug. 7, 1880.

Our bees have stored no surplus up to this date. The hives are full of bees, and I think the prospect for a fall crop is good, as we have had recent rains and buckwheat is just coming into bloom. Spanish needle is very plenty here. I am yet hopeful.
Mrs. C. M. Kingsley.
Elvaston, Ill., Aug. 5, 1880.

I have only secured 100 lbs. box honey. I wintered 14 colonies. Never in 50 years had them stronger in the spring, and never a poorer season. I had 16 swarms from 8. All the hives are overrun with bees, yet they gather only enough to eat. C. L. Young.
Brecksville, O., Aug. 9, 1880.

I commenced after fruit bloom with 7 colonies in box hives; 6 weak and 1 strong; had very little honey in any, and foul brood in all. I transferred to frame hives, increased to 12, and have about 50 lbs. of clover and basswood comb honey.
A. B. Mason.
Toledo, O., Aug. 11, 1880.

1877—35 colonies, 2,176 lbs. extracted honey; 62 lbs. per colony. 1878—55 colonies, 1,656 lbs. extracted, 366 lbs section honey; total, 2,022 lbs.—36¾ lbs. per colony. 1879—49 colonies, 891 lbs. extracted, 101 lbs. section honey; total, 992 lbs—20¼ lbs. per colony. 1880—30 colonies, 300 lbs. extracted, 50 lbs. section honey; total, 350 lbs.—11⅔ lbs. per colony. I fed them last spring 200 lbs. of honey and 80 lbs. of coffee A sugar. I shall be glad if they get enough honey to winter on. C. P. Kauffman.
St. Paul, Minn., Aug. 9, 1880.

My yield of honey is about 400 lbs. of good linden, and the present dry weather gives prospects for but little more.
W. J. Longsdon.
Byron, Ill., Aug. 6, 1880.

I commenced the season with 60 colonies in good condition. We had a good supply of fruit bloom, and a fair yield of white clover. Basswood yielded well for about 7 days. I worked about ½ my bees for comb honey, and obtained 1,000 lbs.; the rest extracted, 1,600 or 1,700 lbs. I market it in Cleveland, and have sold about all at 12½c. per lb. for extracted, and 18@20c. for comb. I have about ¾ of a full crop in all.
John T. Newton.
West Richfield, O., Aug. 7, 1880.

I commenced the season with 55 colonies; have obtained 2,250 lbs. of nice white comb honey from white clover and expect enough in the fall to winter on, from asters. H. W. Roop.
Nashville, Tenn., Aug. 7, 1880.

My honey crop to date is as follows: Extracted, 22 lbs.; comb, 39 lbs. I had 11 colonies in the spring; received 9 swarms. We had no surplus honey till the basswood blossomed. There are 50 to 100 lbs. of unfinished honey on my colonies now. The prospect is poor for a fall crop. H. J. Rosenbaum.
DeSoto, Neb., Aug. 7, 1880.

Bees have virtually done nothing but swarm in this section. In May I purchased 10 colonies of hybrids. They each swarmed once in June, and now they are swarming again. I have had 15 swarms since the 1st ult. My old apiary of 30 colonies gave me no increase till a few days ago. No bees are swarming here except my Italians and hybrids. Bees are gathering just sufficient to prevent feeding; nothing to store. Where there is not foundation enough to build comb, we cannot expect more than ⅓ of a crop this season. Jas. Anderson.
Farmers, Mich., Aug. 8, 1880.

My honey crop has been 800 lbs. from 22 colonies—650 lbs. extracted, and 150 comb; 300 lbs. of the extracted was from 2 Italian colonies. What the fall crop will be I cannot tell. The honey flow, if we have rain soon (it is very dry now) will begin in about 10 days, and should continue until the last of September. This has been the best season we have had for honey since I entered the bee-keeping ranks—5 years ago.
W. J. Willard.
Jonesboro, Ill., Aug. 7, 1880.

I had 108 colonies in the spring to commence with. I have on hand 2,200 lbs. basswood comb honey. Bees are working rapidly at this time on buckwheat and other fall flowers. I expect about 4,000 lbs. of fall honey, making an average of about 54 lbs. per colony.
R. Forsyth.
Blissfield, Mich., Aug. 11, 1880.

I have personal knowledge of 6 apiaries, which together contain about 250 colonies. I do not think they have over 200 lbs. of surplus, and not more than 25 swarms. The prospect is they will gather enough to winter on, where there is plenty of buckwheat; elsewhere they must starve if not fed.
B. H. Standish.
Evansville, Wis., Aug. 11, 1880.

From 35 colonies I received 2,000 lbs. extracted honey, and goldenrod yet to come. My hives are full of honey now. I lost ½ last winter and spring; some lost all. Last year at this time there was no honey in the hives. The prospect is good for 500 lbs. more of box, or 1,000 lbs. extracted honey. The 2,000 lbs. is linden honey. I increased to 70 colonies. H. H. ROSEBROOK.

Owatonna, Minn., Aug. 7, 1880.

The crop of honey is short. I wintered 37 colonies, and increased to 70. I obtained 600 lbs. of extracted honey, 400 lbs. of comb honey in sections, and 100 cards of comb. I used 50 lbs. of foundation. I had not much honey from basswood. White clover was plenty, but gave little honey. The season was very wet. MARTIN EMIGH.

Holbrook, Ont., Aug. 10, 1880.

I went into winter quarters with 23 colonies in Langstroth hives—17 were packed with chaff, which came out well, the other 6 were in the cellar, and I took them out in March; 1 was dead; the rest were in bad condition; 2 of these were robbed in April, leaving 20. These increased to 30. The season has been the poorest for years. I have no surplus to sell. The bees were strong in the spring, and gathered just enough honey to live on and to rear brood, till basswood came, when they filled their hives; it lasted about 2 weeks, but the yield was poor; it was too hot and dry some of the time. The loss among the small bee-keepers around here was very heavy this spring, principally from robbing, which was worse than for years. Our bees have but little to work on till apple bloom, and that was spoiled by a hail storm; the white clover was mostly winter-killed, and yielded little honey; alsike yielded well, but there is but little sown near here. I have a grand place for basswood; there are probably 10,000 trees within a mile. I sowed sweet mignonette as an experiment, and am very well pleased with it so far; it has been in bloom 5 weeks, and is literally alive with bees from 8 in the morning till night, in fair weather. I shall sow more another season. Motherwort is another plant that the bees have worked on since the 1st of June, except in time of basswood bloom, We have no fall feed for bees of any account after buckwheat. The bees are nearly all blacks and hybrids near here. I have taken your valuable paper since I commenced bee-keeping, and would rather have it than all the rest together, and I wish you and it success. E. J. SMITH.

Addison, Vt., Aug. 7, 1880.

I started last spring with 33 colonies, and increased to 55. I have obtained 1,600 lbs. of honey—600 of extracted and 1,000 of comb; all light honey. About ½ is basswood. The prospects are poor for fall honey. I do not expect any more surplus. R. A. CALVIN.

EauClaire, Mich., Aug. 10, 1880.

I commenced the spring with 29 colonies, having lost 1 in the winter, queenless when I put it in the cellar last fall; 3 came out queenless this spring, leaving me 26 in good condition. I worked 1 for comb honey, the rest for extracted. The bare ground last winter allowed the white clover to freeze out, and we obtained nothing from that; basswood yielded well for about 9 days, from which we obtained 1,000 lbs. of very nice extracted, and 48 lbs. of comb honey. I use what is known as the "cottage hive," 8 frames 10x15 inches inside, 2 stories high, for extracting, and store my honey in 10-gallon tin cans. I have increased by natural swarming to 51 colonies. RANSOM ALLEN.

Northville, Mich., Aug. 11, 1880.

I cannot think the crop more than ⅓; from my 15 colonies I obtained 50 lbs. in sections, and a greater part of that poorly filled and not one-sixth of it capped. I did not extract at all. I know of others who have not had 1 lb. We have a favorable showing for the fall crop, with any quantity of goldenrods opening. There were many acres not planted in corn on account of the wet, which are now covered with goldenrods, also the asters on our bottomlands, and a larger acreage of buckwheat than usual. Should the season close now, most of the bees would starve if not fed, I think. I am still hopeful of a fall crop. H. PEACHEE.

Maywood, Ind., Aug. 5, 1880.

I have 203 colonies doing well; swarms have been scarce, though some are still swarming. I wintered 227 colonies on the summer stand; you can see the loss. The fall crop promises well. They came near starving, in fact 3 colonies did starve, the bees rolling down in front of the hives dead; 6 colonies I saved by feeding. The linden came just in time, and they filled up, but gathered no surplus. My bees are mostly hybrids. I purchased queens from M. Quinby and A. F. Moon. From the latter's queen I have 2 or 3 of the brightest daughters I ever saw. Quinby's holds them in color, but not in prolificness. I get rid of fertile workers by taking a frame of comb, bees and a good queen, and placing in the hive. Bush plantain is a rich pollen

producer. With us it lasts longer than hemp, and makes a nice lawn grass. I use dog fennel, or may-weed as some call it, around my hives to drive away the ants. OTTO HALBLIEB.
Henry, Ill., Aug. 10, 1880.

I enclose 2 plants; please name them. Both yield honey, and grow here quite plentiful. Honey will not be more than ½ a crop. I can sell my surplus at home very readily at 20c. per lb. I never used comb foundation until this season, and think it a grand success. I commenced with 50 colonies of bees in the spring, and increased to 70 by natural swarming.
J. F. MCCOY.
VanWert, O., Aug. 9, 1880.

[The plants are melilot clover and figwort; two excellent honey plants.—ED.]

The honey crop here is almost a failure. I will have but a very small quantity of surplus honey, but hope for a better crop next year. I think my bees have enough to winter on, though not much more. Others in the neighborhood are in the same condition. Success to the BEE JOURNAL.
J. STEWART.
Rock City, Ill., Aug. 10, 1880.

Honey crop for 1880, product of 25 colonies: White comb, 375 lbs.; dark comb, 135 lbs.; extracted, 223 lbs. If the fall yield proves as good as 1879, the probable amount will be 400 lbs. more—an average crop. J. W. PRICE.
Shelbyville, Tenn., Aug. 4, 1880.

I have 2,000 lbs. of extracted, and 500 lbs. of comb honey, from 39 colonies, all from basswood. I do not expect any surplus from fall flowers. J. F. Meyer has extracted 2,200 lbs., from 20 colonies; he has no comb honey. R. Wiltz extracted 900 lbs. from 16 colonies, and 100 lbs. comb honey. There is probably as much more, in marketable shape, in the balance of the county, all of which will be consumed in our home markets. I call it a full crop. JAS. A. NELSON.
Wyandott, Kans., Aug. 4, 1880.

In June my bees nearly starved. I had 44 colonies in the spring; these gave 16 swarms, besides 15 second swarms, which all starved, as I had no honey to feed them. The bees are doing well now. I can say nothing now about fall flowers, for the Mississippi bottom lands have been under water, and if the goldenrods do not come up, many colonies of bees will starve this fall.
JOHN BOERSTLER.
Gilead, Ill., Aug. 4, 1880.

The honey crop here is not worth speaking about; no honey but what was gathered from the linden. Bees were in such a poor condition when it came that most of them only filled their hives, hence not many swarms. I have 2,000 lbs., all extracted. T. B. QUINLAN.
Cedar Rapids, Iowa, Aug. 10, 1880.

Owing to north winds, white clover freezing out last winter, and basswood lasting but 4 or 5 days, we did not get more than ¼ of a honey crop. I do not expect any surplus from fall flowers. The weather is very cool, especially at night, with north winds for almost a week. J. H. EBY.
North Robinson, O., Aug. 7, 1880.

The season for white honey with us is over. I have taken, from 40 colonies in the spring, about 1,200 lbs. of comb honey in 1-lb. sections, and very little extracted. We may get 200 or 300 lbs. of fall honey, but will make the bees store most of it in brood frames, to be in shape for winter. The August number of the BEE JOURNAL is worth a year's subscription. C. A. GRAVES.
Birmingham, O., Aug. 8, 1880.

This is the poorest honey season that I have ever known in this section. The bees wintered nicely, coming out strong, and there was no loss in the spring. They had 5 good days to work on the fruit blossoms, and gathered enough honey to last them till the white clover blossomed, but it came 18 days later than usual, and was very feeble on account of the open winter (freezing and thawing so much), and yielded but very little honey. I fed them in June to prevent starvation. The hives are full of bees, and have been ever since the middle of June, yet I have taken no honey and they are light to-day. I have 130 colonies; I have had but 5 swarms, and not one of them have honey enough to winter on. My bees are nearly all pure Italians. It is very dry with us, and late corn and potatoes will be a light crop. FRANK SEARLES.
Hadley, Ill., Aug. 12, 1880.

My honey prospects this year are anything but flattering. Linden, sumac, alder and Indian currant, all of which are abundant in my locality, and goldenrod of many species abounds, but in consequence of the peculiarity of the season, failed to yield their due proportion of nectar. Consequently I look for little or no surplus this fall. This seems general so far as my knowledge extends.
JACOB EMMONS.
St. George, Kans., Aug. 6, 1880.

I keep from 50 to 75 colonies of bees, and usually obtain from 2,000 to 6,000 lbs. of honey per annum; but I shall have none to sell this year.

J. L. WOLFENDEN.

Adams, Wis., Aug. 5, 1880.

I have 40 colonies of bees, but have obtained no honey this season.

A. CRAMER.

Bloomingsport, Ind., Aug. 6, 1880.

I have 8 colonies of black bees, and have now obtained 350 lbs. of comb honey. I expect not less than 100 lbs. of dark honey. Bees are working finely on buckwheat. We have had no swarms in a radius of 4 miles. Bees in box hives have done poorly. I use the Langstroth hive. THOS. J. NICHOLS.

Bees wintered well in this section. Apple bloom yielded a fair crop, putting the bees in good condition. We expected a good honey harvest, but white clover did not blossom, red clover was nearly all winter killed, and even the alsike clover, which has always given me large yields of the best honey, failed in its secretion, although there was an abundance of blossoms. Basswood only yielded honey 3 days. The result is but very few swarms, and from near 300 colonies in this neighborhood there has not been an average of 10 lbs. to the colony, and all of inferior quality. Unless we get a good fall yield, we shall lose many colonies. P. A. RIEGLE.

Arlington, O., Aug. 6, 1880.

This has been a poor season, so far, for bees. On May 8th I finished transferring 13 colonies from box hives into 10-frame standard Langstroth hives. I had left 3 empty Langstroth hives into which I put natural swarms on the first of June. The colonies that I transferred only having 5 and 6 full frames to commence with, I gave them frames with comb starters as fast as needed. From the 16 colonies I have received 100 lbs. of comb honey in sections, mostly basswood, which I have sold at 18@20c. per lb., in this place. There was a great quantity of white clover, but the bees paid no attention to it. The prospects for a fall crop are poor, as buckwheat is the main honey-producing plant in this vicinity. If I get 50 lbs. more of surplus honey I shall be satisfied. I think I can get 15@16c. per lb. for dark honey. My surplus sections are 5x6x2. I shall not extract any honey this season. I am well pleased with the AMERICAN BEE JOURNAL, and do not see how I can do without it. F. H. SEARES.

Girard, Pa., Aug. 6, 1880.

My crop of white clover comb honey will be a little better than I at first expressed it. It will probably average 50 lbs. to each colony in the spring.

G. M. DOOLITTLE.

Borodino, N. Y., Aug. 7, 1880.

This has been a good honey season; amount of white comb honey, 1,200 lbs.; extracted, 200 lbs., from 20 colonies in the spring. I expect 500 lbs. for my fall crop. FRANCIS CULLEN.

Mottville, N. Y., Aug. 9, 1880.

I had 35 colonies last spring; 30 fair ones, and 5 too weak to get much honey. The season has been better than the average. I have taken 1,355 lbs. of extracted, and 129 lbs. of light comb honey, most from white clover and raspberry. I have no basswood. Bees are now working on buckwheat, with every prospect of a large yield of fall honey.

A. W. SMITH.

Parksville, N. Y., Aug. 9, 1880.

Honey has been nearly an entire failure here. I commenced the season with 67 colonies; I have obtained 1,800 lbs. of comb honey, but expect none in the fall. My bees are all Italians, and I have the largest crop of honey of any one in this section of country. Some bee-keepers now having from 20 to 50 colonies, will have scarcely a pound of honey to sell. I have purchased one of D. A. Jones' "holy queens," from which I expect to rear queens, and shall introduce 50 of her daughters into my apiary this fall. These I shall keep in an apiary by themselves, in order to keep them pure. I have a Given foundation press, which I like very much. It is just the thing for making foundation in wired frames, or without the wires. A girl 15 years of age can work the press with ease. I expect to be at the District Convention in Chicago next month. I. R. GOOD.

South West, Ind., Aug. 6, 1880.

The yield throughout this part of the country has been the poorest I ever knew, although last year was but very little better. I have been keeping bees for 20 years, and never experienced two such unfavorable seasons. I have 25 colonies, and have only about 300 lbs. of honey, while many have no surplus. I had 2 swarms each this year and last. White clover was abundant, and lasted a long time, and some is still in bloom. There was a heavy rain storm in the height of the bloom, and after that the bees gathered but little honey. My bees all wintered through, and bred up early in the spring. J. W. DONLEY.

Surryville, O., Aug. 7, 1880.

I have 74 colonies of bees, but not 1 lb. of honey, and no swarms. Bees are almost in a starving condition. White clover was winter-killed, and we have no basswood. My only dependence is on buckwheat, heartsease and goldenrod, and I have not seen a worse prospect in 7 years. I think I have one of the best locations for bees in the State of Illinois, with about 100 acres of pasture north and about the same south, and plenty of fruit east and west. I will soon give you some of my experience in bee-culture, and my method for fertilizing queens in confinement. I am well pleased with the BEE JOURNAL; the only fault I find, is that I get through it too quick. LEVI FILBERT.

Port Byron, Ill., Aug. 4, 1880.

[We shall be pleased to have Mr. Filbert give his method of fertilization. We want all the light and all the methods described in the JOURNAL.—ED.]

Your request for a report on the honey crop is a good one, and all should respond. I have to report a light crop—less than ⅛; 55 colonies in the spring; 89 now. 800 lbs. white honey; less than 300 lbs. of this is extracted. I may get 200 lbs. of dark honey. I have reports from other bee men in this State, who have from nothing to half a crop.

R. BACON.

Verona, N. Y., Aug. 12, 1880.

Fruit bloom yielded well and greatly stimulated breeding, but as the bees had come out of the winter with empty combs, before they had filled up fruit bloom passed, and June 15th found many strong colonies starving. When I should have been taking early honey, I was compelled to feed the bees. White clover, from the seed, bloomed in considerable quantities, and is blooming still, but it affords little nectar. Milkweed afforded some honey, but now and then a bunch of bloom would be found with 8 or 10 bees stuck to it, dead or dying. At present buckwheat and figwort are yielding some honey, but I have not had an ounce of surplus. The outside combs are still empty, and they may not have enough to winter on, though all supers be removed at once. I have not had a single swarm. I prepared a colony for queen-rearing, and let them rear one queen, which gives me an increase of one. A colony that came out of the winter with a fertile worker was given Italian brood, and by April 16th had a purely mated Italian queen laying in the hive. I have more empty hives than colonies; some hives have been waiting for swarms for two summers; but I shall not surrender yet, though it is very hard on one who has just essayed making bee-keeping a specialty, and upon limited means. If I can bear the *down* to start with, the *up* will be all the more pleasant and cheering when it does come. Those who persevere will be benefited in the end; "under-feet" will be driven out of the business, and we shall have a wider and better market for honey when we do get it. WM. CAMM.

Winchester, Ill., Aug. 8, 1880.

My report of comb honey is 400 lbs. from 15 colonies. I expect 150 lbs. more when it is capped. I wintered 15 colonies in the cellar. I have 25 now in good condition. Buckwheat is a failure, but fall flowers are doing well.

E. A. PARISH.

Hornellsville, N. Y., Aug. 7, 1880.

The weather has been very dry here for 2 months; bees have done but very little, with no white honey to speak of. Poor prospect for fall crop.

W. D. WRIGHT.

Knowersville, N. Y., Aug. 6, 1880.

I now have 125 colonies of bees, and not a pound of surplus honey so far this season. All are light, and I do not expect more honey than will be needed for wintering. All the bees in this section are in about the same condition.

C. H. DIBBERN.

Milan, Ill., Aug. 2, 1880.

I lost ⅔ of my bees last winter and spring; I wintered in the cellar until February, and then out of doors. I had 55 colonies when I commenced to increase, and now have 160. I have extracted 800 lbs., and have about 500 lbs. more to extract, with about 700 lbs. of comb honey to take off, leaving the bees about 20 lbs. in each hive.

H. A. SIMONDS.

Eagle Lake, Minn., July 31, 1880.

We have not a pound of surplus honey in this neighborhood, and no prospect of any. What clover there was, did not produce honey. The floral cups were scattered very thinly over the head, showing an unhealthy condition of the plant. So there was but a slight flow of nectar into the floral cup. The fluids of the plant were absent. It will cost $200 or $300 to winter my bees, after the loss of $200 in preparing for the summer's campaign, and all my work. It is very dry here. A good rain of 24 hours, I think, would be worth $200 to me. A. SALISBURY.

Camargo, Ill., Aug. 16, 1880.

The present has been one our best years for bees in Southwestern Iowa; the grove seems to be swarming with them. Some 20 swarms have been captured in the woods near here. We never had such a yield of basswood honey before. S. C. SMITH.

Wheeler's Grove, Iowa, July 30, 1880.

Thus far I can see very little difference between this and last year's crop. I had 25 colonies last spring, and expect about 800 lbs., ½ of which is extracted, and the remainder comb honey, mostly bergamot and buckwheat. The extracted is mostly white clover and linden. If we get a rain, the bees will yet gather considerable honey.

L. H. PAMMEL, JR.

LaCrosse, Wis., Aug. 10, 1880.

I have been taking the BEE JOURNAL for years, and cannot well get along without it. We have had a very poor honey season. I wintered 20 colonies, which came out strong in the spring, and have increased to 33—3 by natural swarming, and 10 by dividing, but I shall not get a single pound of honey. I put on over 200 boxes and racks June 7th, but there is not a pound in all of them now. About ½ of the hives have not to exceed 5 lbs. each. If I winter them all I shall have to feed them. It has been very wet here this summer; during May, June and July we had 96 rains. WM. C. WOLCOTT.

Eldorado Mills, Wis., Aug. 16, 1880.

My honey crop for 1880 is 1,180 lbs.—600 basswood, the balance whitewood and raspberry. The bees are getting honey now, and the prospects are good for 1,000 lbs. more. Mine is all extracted. I commenced the spring with 30 colonies, and had only 3 swarms.

T. G. ZIMMERMAN.

Union City, Mich., Aug. 13, 1880.

The white honey season is over, and is the poorest I ever have had. I have 100 lbs. of white honey, and if it keeps so dry I do not think I will have over 1,000 lbs. of dark honey from 46 colonies in the spring. P. S. GROGAN.

Aquetuck, N. Y., Aug. 14, 1880.

This has been the poorest season for honey for many years. It will not average ¼ of a crop, though there are plenty of bees. If this fall proves a failure, we shall have to feed heavily for winter. I have received a number of reports from different parts of the Dominion, all bearing the same complaint.

M. RICHARDSON.

Ft. Colborne, Ont., Aug. 5, 1880.

The present season has been one of the poorest ever known in Northern Georgia. Bees are in a light condition. For a few days past they have been gathering some. The scarcity of honey has almost totally prevented queen-rearing. A. F. MOON.

Rome, Ga., Aug. 12, 1880.

Bees are literally starving in this vicinity. I had 75 colonies in the spring, and have not had a swarm nor 1 pound of honey, and have lost 8 colonies by robbers. I fed till fruit blossoms came, but have not fed since. I have not heard of any one getting any surplus in this region, and unless we get rain soon, we shall lose all our bees. The only thing we now have to depend on is buckwheat or feeding.

WM. C. GRAY.

Pre-emption, Ill., Aug. 6, 1880.

At the commencement of fruit bloom I had 100 colonies of bees in good condition, as I supposed; they did well on that; the white clover season was wet, so that bees obtained no honey, and 2 colonies starved. They began to swarm on June 17th, 3 weeks later than last year, and increased to 184, besides doubling up and putting back some. During basswood bloom the weather was fine about ½ of the time; they then gathered honey very fast, and are doing well on buckwheat now. I have 125 frame hives, the balance being box hives. Unless I sell some this fall, I shall kill about 100 colonies. I have attended them this season all alone, and it is rather more than I wish to do, with other business. O. C. BLANCHARD.

Ironton, Wis., Aug. 11, 1880.

I wintered 45 colonies of bees in my cellar, which came out all right. During the apple bloom they filled the lower stories of their hives well with brood, and by the last of June I had about 10 swarms, and I divided about as many more, giving them each 3 or 4 combs. I do not think the new colonies have on an average more than 3 lbs. of honey. I am 83 years old, having kept bees over 60 years, and never before experienced so poor a season for honey.

L. BURDICK.

Galesburgh, Mich., Aug. 7, 1880.

This is my fourth year here with bees, and not a good season have I had; the first year being the best. I shall dispose of my 80 colonies, or move them to a better place. They have honey but no surplus to spare. I expect the fall harvest to make it up; but for 3 years I have been disappointed. I have only

extracted 100 lbs., and have 50 lbs. of comb honey. I think the country is over-stocked. There are 290 colonies in range of my bees, and the axe has been slaying the poplar and linden; without these I would give but little for the bee business. Wishing you a happy bee future, C. Newsom.
Crown City, O., Aug. 5, 1880.

Our honey season started in early, but was of short duration. From 3 colonies I have now only obtained 20 lbs. of comb honey, which is ½ or ⅓ of an average yield. Our fall prospect is good, and it is nearly all the show we now have for surplus. My bees are in good condition for the coming crop. I increased to 5 after the first yield. Asa B. Phœnix.
Campbell Hill, Ill., Aug. 3, 1880.

Bees in this part of New York have gathered but little honey. It has been very dry. The Italians have done best; but for them I should not have procured 1 lb. of white honey. As it is, I have but 300 lbs. If we have a few more days on buckwheat I shall secure 1,200 lbs. of dark honey. One apiary in an adjoining county that produced 10,000 lbs. last season, will hardly yield 500 lbs. this. I commenced with 50 colonies in the spring and increased to 80. I have one colony in my yard that have gathered 32 two-lb. sections full of white honey, and are working on the third set, hold-32 lbs. more, and have them nearly finished; where they get it from is a mystery to me. There is nothing but melilot clover, and that is nearly 2 miles from here. Do you think they will carry it thus far? All the rest are storing buckwheat, of which there are 100 acres within ½ mile of my bees. This colony has an Italian queen that met a black drone, and it is the strongest working colony that I ever saw. I think hybrids are best for storing box honey.
F. Boomhower.
Gallupville, N. Y., Aug. 18, 1880.

[Bees, especially Italians, will go very much further than 2 miles for honey, some apiarists placing the distance at 7 miles, and even more; and the fact that your bees neglect 100 acres of buckwheat within ½ mile, and fly 2 miles to obtain the delicious nectar from melilot or sweet clover, is timely corroboration of our editorial in the Bee Journal for August last, page 361.—Ed.]

I have increased from 81 to 165 colonies of bees, and have re-queened all with Italian queens. H. S. Hackman.
Peru, Ill., Aug. 16, 1880.

The honey yield has been good; my best colonies have gathered 80 to 100 lbs. of comb honey. Honey dews have been partial here, and the honey crop is much larger in some localities than in others.
J. E. Pitman.
Marlboro, Va., Aug. 21, 1880.

This has been a poor season for honey, the rain washing it all out from the blossoms. We have now had 2 poor seasons, but I am not discouraged; the next may be a good one.
Martin Haas.
Mendon, Mich., Aug. 13, 1880.

The crop of honey in this vicinity is very large and fine in quality; clover and basswood yielded well; some of my colonies will give 200 lbs. of surplus.
Edward B. Beebee.
Augusta, N. Y., Aug. 10, 1880.

Half of the bees, at least, in the north-eastern part of Iowa, and the adjoining counties north in Minnesota, died last winter and spring, mostly from starvation. No honey was stored until June 19; bees were then very weak. We had very little swarming, and that mostly in July; 15 colonies have given 150 lbs. of comb and 750 lbs. of extracted honey; about 300 lbs. in sections, nearly ready to take from hives that none has yet been taken from; 65 colonies have given no surplus yet, but many are working well in the supers now, and there is a good prospect for a fair fall crop. Gassman has taken about half as much surplus per colony, from 60, as I have; no others, so far as I can hear, have taken surplus of any account. There will be a home demand for all of the honey raised here this season. O. E. Cooley.
Bluffton, Iowa, Aug. 18, 1880.

Of light honey I have not over one-sixth of an average crop, and the proportion of dark will not be larger, as the bees will have to store much of it in the lower story, they being light in honey for this time of year. I have 160 strong colonies; they have swarmed but little, and have not gathered much honey.
W. E. Forbes.
Plainwell, Mich., Aug. 16, 1880.

We have here had the best honey season for many years. L. Johnson.
Walton, Ky., Aug. 20, 1880.

Bees in this section are gathering no surplus, and it is very doubtful if they get sufficient to winter on. I had no swarms from 75 colonies.
Wm. Heald.
Mt. Sterling, Iowa, Aug. 19, 1880.

I have to report the honey crop with me almost a total failure; certainly less than ⅓ of a crop. I have had but 12 natural swarms from 70 colonies, and some, I fear, will not gather honey enough to winter on.

GEO. W. TELLER.

Colon, Mich., Aug. 16, 1880.

I expected to obtain a good yield of white clover honey, but did not get any. I have taken about 175 lbs. of basswood, and will get from 200 to 400 lbs. of buckwheat honey more, all in the 1¼ lb. sections, and I think, as far as I can hear, that I am the only one about here who is getting any surplus, except a little buckwheat. I have at present 81 colonies of bees (6 of them Italians). My total yield is about 500 lbs.—⅓ of the amount taken in 1878.

J. H. MURDOCK.

Dexter, Mich., Aug. 16, 1880.

In this (Miami) county there are about 1,200 colonies of bees, and one-fifth the average number of swarms; no surplus honey worth mentioning up to Aug. 15th, and none in the market here. We are expecting perhaps ¼ of an average yield from fall flowers. This year's yield in Northern Indiana will not exceed more than ¼ of an average crop. I have 75 colonies.

W. A. HORTON.

Macy, Ind., Aug. 16, 1880.

This has been a poor year for bees in this section of the country. There is very little comb honey made.

M. H. MILSTER.

Frohna, Mo., Aug. 13, 1880.

I have taken about 600 lbs. of comb honey from 39 colonies in the spring, and have 400 or 500 lbs. yet on the hives in partly-filled sections. I extracted about 150 lbs. I have increased to 47 colonies. The prospect is very good for fall honey.

H. W. FUNK.

Bloomington, Ill., Aug. 11, 1880.

I have obtained no surplus to date; we may get a little from buckwheat, but it will take about all of that to winter on; and so far as I know, every bee-keeper is in the same fix.

J. LEE ANDERSON.

Lawrence, Ill., Aug. 19, 1880.

The wet weather seems to have washed out the honey from the flowers; but since the corn, cotton and asters have bloomed, I think the yield will be about 25 lbs. to each hive.

J. A. AUSTIN.

Huntsville, Ala., Aug. 14, 1880.

From 21 colonies I have extracted 250 lbs., and had 500 lbs. of comb honey. I expect a like amount from fall flowers.

JOHN HERBST.

Richville, Mich., Aug. 18, 1880.

From 12 colonies I have extracted 113¾ lbs. of extracted and 73½ lbs. of comb honey; all from white clover. I do not expect any fall surplus, it will take all of that for the bees to winter on.

R. L. AYLOR.

Waterloo, Ky., Aug. 9, 1880.

I have 50 lbs. of honey and no increase from 46 colonies. Bees are weak but working lively on golden rod. I cannot expect more than 400 lbs. for the season.

J. A. GREEN.

Dayton, Ill., Aug. 11, 1880.

In April I had 22 colonies; now I have 40. I have extracted 285 lbs. and have no comb honey. I do not expect any surplus from fall flowers, though the bees are working on them lively.

J. CHAPMAN.

Home, Mich., Aug. 14, 1880.

From 150 colonies I get no honey or increase. The bees were in good condition, and the weather was favorable but the blossoms secreted no honey. There is no surplus honey in this county, so far as I know.

D. B. ULERY.

Northampton, O., Aug. 13, 1880.

My honey crop for 1880 is 1,029 lbs. of extracted and 573 lbs. in the comb; chiefly light, from 35 colonies; I expect a good yield from fall flowers, but no surplus.

CHAS. WELLING.

Jackson, Mo., Aug. 11, 1880.

I shall have about 1,000 lbs. of honey this season, about 300 of it is extracted.

J. PRECIOUS.

Big Spring, Mich., Aug. 17, 1880.

There has been no white honey, either extracted or comb, in this vicinity this season. I do not believe there is a fully capped box in Walworth county. There have been very few swarms, and bees are mostly without sufficient stores for winter. Buckwheat is now just in blossom, and promises a fair yield.

S. X. CLARKE.

Delavan, Wis., Aug. 11, 1880.

Honey is but ¼ of a crop; white clover was a failure; during basswood bloom it was too cold for bees to work much. It is cold and wet now.

F. L. SMITH.

Watervale, N. Y., Aug. 19, 1880.

From 35 colonies I have taken 649¼ lbs. of comb honey in sections, and 101½ lbs. of extracted, all light, and I have 2000 sections on the hives about ½ full, and 1,000 not worked in yet, but hope to get 3,000 lbs. of comb honey, all told.

HARRY BLACKBURN.

Webberville, Mich., Aug. 16, 1880.

From 230 colonies in the spring, I increased to 426. White honey in boxes, 8,300 lbs.; extracted, 800 lbs.; yield about ½ of a crop. Prospects for fall honey are poor, owing to the dry weather. Honey will not be ⅓ of a yield through Central New York. GEO. W. HOUSE.

Fayetteville, N. Y., Aug. 16, 1880.

I have 1,800 lbs. of section comb honey, and 2,000 lbs. of extracted, all clover. We have no fall crop of honey. Our season has been an average one for honey; but little swarming, and some of my neighbors' late swarms are starving out. Two called on me, and I took them in and gave them rations.

E. DRANE.

Eminence, Ky., Aug. 14, 1880.

My honey crop is very light; about 16 lbs. to the hive, in boxes. This was gathered in June; since then the bees have not gathered as much as they have consumed. I expect to feed back some for winter. Honey sells here at about 20c. per lb. PETER MOYER.

Clark, Pa., Aug. 17, 1880.

Clover winter killed; basswood yielded well and buckwheat is plenty. I have 4,000 lbs. about ⅓ the quantity I obtained last year. W. C. WELLS.

Philipston, Ont., Aug. 10, 1880.

From 75 colonies the surplus is 100 lbs. of extracted and 150 lbs. of comb honey. Prospect poor for buckwheat yield, it will not exceed 500 lbs. The Italians swarmed considerably but could not be induced to go into the boxes—the blacks gave what little surplus we obtained. D. H. HOPKINS.

Bear Lake, Mich., Aug. 17, 1880.

I expect about 300 lbs. of honey from 9 colonies in the spring, and 2 swarms. It is all comb honey, and ⅓ of it is dark. O. P. CODDINGS.

Johnson, Vt., Aug. 20, 1880.

Honey in this county is less than ¼ crop. I shall have about 2,000 lbs. instead of 8,000 lbs. which I had last year. Many here get none. It is exceedingly dry here, and my bees have incessantly swarmed. IRA BARBER.

DeKalb Junction, N. Y., Aug. 20, 1880.

From 50 colonies I extracted 1,500 lbs., besides getting 350 lbs. of comb honey. My bees are all Italians. It will average ½ crop. J. D. ENOS.

Napa, Cal., Aug. 8, 1880.

From 25 colonies last spring I increased to 30, and have extracted 1,000 lbs. of honey; I have 150 lbs. of comb honey, and will get 100 lbs. more this season; the 5 swarms did not yield much surplus honey; 500 lbs. of the extracted honey was dark. W. H. NEWSOM.

Wittsburg, Ark., Aug. 16, 1880.

From 5 Italian and 2 black colonies of bees I have 150 lbs. of comb honey and the same amount of extracted. I have had no natural swarms; made 2 extra colonies by dividing. This is about ⅓ of a crop; they have about 30 lbs. to each hive left for winter.

W. W. LYNCH.

Maysville, Ky., Aug. 17, 1880.

I have extracted about 2,000 lbs. of honey (800 dark and 1,200 light) from about 80 colonies, and may get 500 lbs. more. J. F. LOVE.

Connersville, Tenn., Aug. 18, 1880.

During the past 2 weeks I have conversed with 26 bee-keepers, having from 2 to 100 colonies each. One reports 3 swarms, 2 have each had 2 swarms, and 2 have each had 1; with these exceptions the universal report is "not a swarm nor a pound of honey." My bees are storing a little in the surplus boxes from buckwheat. REUBEN HAVENS.

Chebanse, Ill., Aug. 23, 1880.

I had 41 good colonies last fall, but only saved 15 through the winter, and 5 of them were weak. I have extracted 225 lbs. of light honey, and have 60 lbs. of comb honey. If they gather enough from fall flowers to winter on they will do well. They have gathered nothing from buckwheat yet, though it is in full bloom. PERRY MCKAY.

Spofford, N. Y., Aug. 10, 1880.

We have as yet no honey of any kind; all the first part of the season being a total failure. Bees were almost in a starving condition during the months of May, June and July, owing to the failure of the white clover, which was winter-killed, and the new crop secreted but little honey. The extreme high water in the Mississippi river destroyed all vegetation in the low lands, consequently there is no probability we will have any surplus this year.

L. H. SCUDDER.

New Boston, Ill., Aug. 21, 1880.

I have been Italianizing and increasing, and have taken no honey from 40 colonies. A few of the strongest colonies have filled their hives 2 or 3 times. The country is parched for want of rain.

S. S. H.

Big River Mills, Mo., Aug. 20, 1880.

I have 250 colonies, but have not had 5 lbs. of surplus to the hive. The bees are breeding finely and the hives are full of bees. Fair prospect for a good harvest from Spanish needle.

A. T. WILLIAMS.

St. Charles, Mo., Aug. 10, 1880.

From 75 colonies my surplus will not exceed 200 lbs. of comb honey; this is the poorest honey year since 1872; white clover being a failure, the basswood was the only source for honey.

A. M. SAWDEY.

Poolville, N. Y., Aug. 23, 1880.

Bees wintered well here, but in the spring they dwindled badly; when raspberries and locusts were in bloom the combs were full of brood, so that there was no room for honey; clover yielded no honey this year, and basswood only lasted 5 or 6 days; buckwheat is now in bloom, but it does not seem to contain much nectar. Upon inquiring regarding the honey crop in this locality I find as follows:

Mr. A., 5 miles distant, has 49 colonies and 3 swarms.

Mr. B., 2½ miles east, has 45 colonies and only 1 swarm.

Mr. C., 4 miles southwest, has 52 colonies and 3 swarms.

Mr. S., 5 miles south, has about 500 colonies, and 5 or 6 swarms.

Mr. H., 7 miles west, has about 40 colonies, and has had very little surplus.

Mr. G. has 15 colonies, but no increase.

Mrs. C. has 6 colonies and 1 swarm, which went to the woods.

Mr. M. has 14 colonies, but no increase nor honey.

I would like to call attention to the valuable hints given on page 361 of the JOURNAL for August. If bee-keepers do not own a foot of land, there is plenty of waste land along the highways, vacant lots and fence corners, and I believe that bees get half of their living from mustard, catnip and motherwort. Success to the BEE JOURNAL.

D. L. WHITNEY.

Rockton, Ill., Aug. 16, 1880.

My 50 colonies barely made a living, even though fed a little every week; I shall double up and feed in September.

H. T. COLLINS.

Jacksonville, Ill., Aug. 23, 1880.

I commenced in spring with 80 colonies; increased to 125, which are strong in numbers, but some are light in stores. Comb honey, 1,600 lbs.; extracted, 400 lbs. This has been a very poor season in this vicinity for honey, even with a lot of combs for surplus and brood chamber; many of us have left no stone unturned to prevent increase, so as to run for surplus. I think I can safely speak for 1,000 colonies, many of which will not give more than ½ the increase or surplus of mine. We ought to get 20@22c. for clover honey that is not already on the market.

A. A. HARRISON.

McLane, Pa., Aug. 14, 1880.

I have kept bees for 20 years, but this is the first season that I have been without a pound of surplus. The white clover was killed last winter, and the new crop did not come on this summer in time to do the bees any good, and it is now so dry that buckwheat and fall flowers are doing nothing. I fed my bees last fall to carry them through the winter, and will have it to do again, unless we have a very favorable change. I have always held that the black bees, if treated the same as the Italians, would do equally as well. This has been a good year to test their qualities, and I find the Italians far ahead in every way. I now have all my bees Italianized, and want no more blacks.

E. ARMSTRONG.

Jerseyville, Ill., Aug. 16, 1880.

My crop of honey is: Extracted, 500 lbs. light, 500 lbs. dark; comb, 90 lbs. light. I shall get about 200 lbs. dark comb honey, and 400 or 500 of extracted from buckwheat and asters.

J. N. MCCOLM.

Plymouth, Wis., Aug. 24, 1880.

I had 62 colonies in the spring; increased to 93, and obtained 3,000 lbs. of comb and 500 lbs. of extracted; all clover honey; none to be expected from fall flowers. F. A. SALISBURY.

Geddes, N. Y., Aug. 21, 1880.

I had 7 colonies of black bees in the spring; increased to 9, and obtained 80 lbs. of dark and 182¼ lbs. of light honey, most of it is still on the hives; the fall harvest will continue several weeks yet. J. R. KILBURN.

Fisher Station, Mich., Aug. 21, 1880.

There is but little honey and no increase; I expect enough honey from buckwheat for my bees to winter on.

H. W. CONKLIN.

Rockton, Ill., Aug. 23, 1880.

I have increased from 24 to 38 colonies and obtained 600 lbs. of honey from white clover. I expect no surplus fall honey. J. F. Kropp.
Varysburg, N. Y., Aug. 11, 1880.

From 48 colonies in the spring I have increased to 55, and obtained only 10 lbs. of honey. It has been too dry. The bees are working nicely now on buckwheat and fall flowers. The bees have nearly starved all summer and I do not expect much surplus this fall.
W. T. Hohensiell.
Munster, Ill., Aug. 12, 1880.

Last fall I had 43 colonies; I wintered all but 4, and 14 swarmed out in the spring, leaving eggs and brood in the hives. I had to feed till basswood came and then I had increased the 25 colonies to 41, in fair condition. I extracted 3,200 lbs. of basswood honey; I got 400 or 500 lbs. in comb; I do not expect to get any more surplus honey this fall. I now have 51 colonies. J. E. Cady.
Medford, Minn., Aug. 17, 1880.

The honey harvest was almost a failure here. From 50 colonies I extracted about 1,100 lbs. and obtained 30 partly filled sections. Our honey harvest was over by the middle of July.
Wm. Bitzer.
Wheeling, W. Va., Aug. 11, 1880.

I have no surplus honey yet; the bees barely get enough to live on. The prospect is good for fall flowers and I hope to get a few pounds to eat. It is very dry and buckwheat is in bloom. I have 5 colonies. C. Hollowell.
Dunreith, Ind., Aug. 10, 1880.

White clover was almost a failure here, but basswood never yielded better; but the bees were weak in numbers and did not get much honey. The yield from 49 colonies was about 500 lbs. from clover and 2,650 lbs. from basswood.
Wm. H. S. Grout.
Poland Centre, N. Y., Aug. 16, 1880.

I have taken 3,300 lbs. of extracted and 800 lbs. of comb honey; there is about 1,000 lbs. of comb honey on the hives yet. The fall harvest will be late and may be from nothing to 3,000 lbs., according to the weather.
Geo. W. Horner.
Dubuque, Iowa, Aug. 18, 1880.

My 225 colonies produced 3,500 lbs. of white comb honey. I may get 1,000 lbs. more of dark honey.
C. Alexander.
South Onondaga, N. Y., Aug. 16, 1880.

I have 38 colonies, and 8 half-barrels of extracted linden honey.
John Scheerer.
Ridgeley, Mo., Aug. 11, 1880.

From about 150 colonies last spring, owned by several parties, I can report an increase to 325. The yield of white honey is not more than 1-5 of a crop. Dark honey will give us probably ¼ of a crop. Thomas T. Delzell.
Hershey, Mich., Aug. 20, 1880.

In Vermont the honey crop is not over ¼ of an average. From 31 colonies I have obtained 250 lbs. of light honey and expect about 300 lbs. of dark. Had the crop been an average one I should have had 2,000 lbs.
R. G. Whally.
Charlotte, Vt., Aug. 23, 1880.

I have 30 colonies, but have only had 2 swarms. Several strong colonies produced 50 lbs. each. But many were weak and I have only 400 lbs. of comb honey. I am the only one that has had any honey to speak of, in this locality.
Col. R. Walton.
Industry, Pa., Aug. 24, 1880.

I began the season with 7 colonies; have increased to 19, by natural swarming; have taken 40 lbs., and may get enough to make 100 lbs. The crop is a failure here, this year, on account of dry weather. The ground has not been wet down 2 inches for 4 months.
James H. Holt.
Fairfield Centre, Maine, Aug. 16, 1880.

Last year I commenced the season with 12 colonies, increased to 33 and obtained 400 lbs. of surplus. I lost 2 in winter and 4 dwindled away in the spring. From the remaining 27 I have had 200 lbs. of comb honey and 125 lbs. of extracted. It has been a very poor season. C. A. Stone.
Southbury, Conn., Aug. 20, 1880.

White clover was plenty for 7 weeks but yielded no honey. The weather has been so dry that we shall have but little surplus. My bees have not worked on melilot clover this summer. Basswood was also a failure. J. P. Spaulding.
West Creek, Ind., Aug. 17, 1880.

From 7 colonies I extracted 568 lbs.; from 7 others I obtained 250 lbs. of comb honey in 1 lb. sections; I have increased the 14 colonies to 29; they are hybrids; I have introduced 1 Italian queen and have another to introduce to-day. O. J. Terrell.
North Ridgeville, O., Aug. 14, 1880.

From 12 colonies in the spring (6 being weak) I have 105 lbs. of clover and basswood honey. If the weather is favorable I expect 200 lbs. more of fall honey. I have increased to 18. Some of my neighbors who have 20 to 50 colonies have neither increase nor honey. We raise all comb honey here.

E. H. NORTON.

Marengo, Iowa, Aug. 15, 1880.

My bees are in fine condition, but there is no honey to gather; I hope they will get enough to winter on; I do not think there will be 500 lbs. of surplus in Warren Co., this year.

F. J. SAURIN.

Kirkwood, Ill., Aug. 19, 1880.

I had 81 colonies in the spring; I have increased to 149, in good condition; I have now 2,220 lbs. of honey (50 lbs. of it is extracted), and expect enough more to make 4,000 lbs. in all; clover was winter-killed and basswood blighted, yielding honey but 3 or 4 days.

J. F. SPAULDING.

Charles City, Iowa, Aug. 23, 1880.

Bees are doing well here this month —the first time this season that they have done so. D. S. GIVEN.

Hoopeston, Ill., Aug. 21, 1880.

From 40 colonies I have only 3 swarms and 35 lbs. of extracted honey. It has been too dry and hot to expect much from fall flowers. I shall be satisfied to call it a ¼ crop. H. J. WARD.

Farmington, Ill., Aug. 17, 1880.

We have just honey enough to keep the hives full of bees all the season. From 107 colonies I had 30 swarms, but returned all after-swarms and many first swarms; I have extracted 360 lbs. of honey; from goldenrod I expect a good yield. Nearly all this honey I obtained from Italians—this season has proved their superiority over the blacks.

J. W. ECKMAN.

Richmond, Texas, Aug. 12, 1880.

I have increased from 12 to 20 colonies; I shall have but little surplus; basswood yielded well for about 2 weeks.

PETER BILLING.

Pawnee City, Neb., Aug. 23, 1880.

This is the poorest season I have known for 13 years; there is no surplus in Carroll county; other portions of the State are in the same condition; my bees are breeding well, and will doubtless obtain enough for winter.

F. A. SNELL.

Milledgeville, Ill., Aug. 23, 1880.

I had 54 colonies in the spring, some weak; increased to 130, and have obtained about ⅔ of an average crop, or about 120 lbs. to the colony in the spring; there is no comb honey here to send to market; the yield in this locality has been about the same as mine; the season is now over for honey with us.

J. P. BASSETT.

Santa Barbara, Cal., Aug. 14, 1880.

I wintered 24 colonies without loss on the summer stands; I have now 46 strong colonies with plenty of honey for winter; I extracted 500 lbs. of white clover and linden honey and have about 500 lbs. of comb honey; if the weather is favorable I shall have much more fall honey; bees have done poorly in this section. DR. A. J. WRIGHT.

Carlton, Mich., Aug. 15, 1880.

I extracted only 2½ tons from 360 colonies; about 300 of them being in good order; some bee-keepers obtained none. L. LINDSLY, JR.

Waterloo, La., Aug. 16, 1880.

Mine is an average crop; I have about 8,000 lbs.; ¾ light. R. B. OLDT.

New Berlin, Pa., Aug. 16, 1880.

I had 60 colonies in the spring and have extracted but 3,080 lbs.; ⅓ less than usual; I have increased to 100 colonies; our country is mountainous and is well adapted to bee-keeping; we have poplar, linden, persimmon, sourwood and almost all other common honey plants; I wish some good bee man would come down here and develop the business. B. B. TONEY.

Holly Tree, Ala., Aug. 17, 1880.

The mild winter destroyed nearly all our honey-producing plants; we have less than ½ a crop. C. B. MILLER.

Selin's Grove, Pa., Aug. 3, 1880.

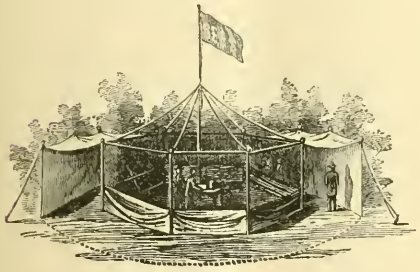
I fed 8 colonies last fall with honey extracted from combs on which bees had died the previous winter from dysentery; they wintered safely; in July I think there was about 320 lbs. of honey in the hives; on Aug. 1, I took off 100 lbs. of light comb honey, and I have increased to 14 colonies; I shall have to feed again this fall; since writing this I have had another swarm; a virgin queen accompanied a swarm from a hive that had given a swarm on the 4th inst.; I returned the swarm; this is new to me, to have a virgin queen lead off a swarm. JOSEPH H. FISHER.

Napoleon, O., Aug. 12, 1880.

London Honey and Bee Show.

The sixth annual exhibition of bees and their products and apiarian appliances, under the auspices of the British Bee-Keepers' Association was held from July 28 to Aug. 2. This association was formed with the two-fold object of advocating the more humane and intelligent treatment of the honey bee, and of bettering the condition of small farmers by the encouragement, improvement and advancement of bee-culture. The British Bee-Keepers' Association which is a splendid example for the American National Society, has held shows every year, having sent its tent and skilled manipulators through the country to attend fairs, etc., and has 11 local associations affiliated to it.

The accompanying engraving shows the bee tent as it stands upon the green sward in front of the conservatory of the Royal Horticultural Society at



South Kensington. In this tent Mr. Frank Cheshire, one of the soundest thinkers in this generation of bee-keepers, delivers several times a day lectures of the most charmingly interesting character, while an expert practically illustrates that part of the lecture relating to transferring, etc. There are I fancy few, if any, in America who would limit the number of bee-keepers or make the production of honey a monopoly to be enjoyed only by a small class of individuals. I hope the National Society, will, therefore, have one of these tents made for use at the bee conventions and fairs throughout the States and thus educate the masses by popular lectures and practical illustrations in modern bee culture.

By charging a six-pence admittance, the tent is made not only self-supporting, but so large is the attendance it is actually a source of revenue. One of the features in the tent this week was the competition in transferring from a straw hive into a movable-frame one, to capture and exhibit the queen. Mr. Walton, of Leamington, transferred his Ligurians in 4 minutes and 15 seconds and found his queen in 3 minutes and 15 seconds. The prize for transferring was awarded Mr. Walton.

At the show this year there are 53 exhibitors among whom 93 prizes were distributed, comprising silver medals and $10.00; bronze medals and $5.00; Certificates and $2.50; and many prizes alone varying from $10.00 down to $1.25.

There were 9 exhibitions of live bees. Mr. Baldwin was awarded the first prize for the best colony of Ligurian bees. The second was given to Messrs. Neighbour & Sons. Messrs. Abbott Bros.—not Mr. Jones as previously written—received a silver medal for the best colony of Cyprians. For the best colony of other foreign bees—Neighbour & Sons took the first prize, a silver medal, with their Hungarians. Abbott Bros. were awarded a silver medal first prize, for the best hive for observation purposes, stocked with bees and their queen. Colonies were sold at $22 to $30, each. There were 28 exhibitions of hives. The highest prizes being awarded those constructed upon the movable-frame principle, while the old fashioned "skep" or straw bee hive, the shape of which is proverbial, are rescued from disuse by several prizes. Price of straw hives here is $1.25 each, while the movable-frame hives range from 62½ cents up to $12.50.

The American honey which I introduced into this country in the "prize" and "Hetherington" boxes, have exercised a complective influence upon the Honey Show this year. The season being more propitious than last; the large number of American surplus boxes imported into this country, have gone into use and the 98 different exhibits displayed at least a variety never found at an American fair, while the highest prizes in any class, were awarded to the honey in American sections. In every instance white clover won the laurels. While it was not considered necessary for a prize to have the best honey in the most marketable shape by glassing and crating the sections, consideration was given to straight, well-filled combs. The extracted clover honey had a particularly fine definite flavor, but rather thin in body and in some instances unripe. The prices asked for 1 lb. sections filled with white clover honey was 2s. 6d. (62½c.), while extracted sold at 1s. 6d. (37½c.), per bottle, containing 1 lb. Of course these prices amounted to a prohibition, and although the show was largely attended, many of the exhibitors will take their honey home again. *

Business Matters.

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PAYABLE STRICTLY IN ADVANCE.

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Four subscriptions,	"	"	4.50
Five or more,	"	" each,	1.00

Advertisements will be inserted at the rate of **20 cents** per line of Agate space, for each insertion. A line will contain about **eight words**; fourteen lines will occupy an inch of space. Advertisements must be received by the 20th, to insure insertion.

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☞ We intend only to advertise for reliable dealers, who expect to fulfill all their advertised promises. Cases of *real* imposition will be exposed.

Remit by express, money-order, registered letter or New York or Chicago drafts, payable to our order. *Do not send checks on local banks*, for such cost us 25 cents each for collecting.

THOMAS G. NEWMAN

974 West Madison St. CHICAGO, ILL.

☞ Specimen copies of the BEE JOURNAL and our catalogue of bee literature sent free upon application.

☞ Postage stamps received in payment of all sums due this office, when bank bills are not available.

Kentucky State Convention.

The bee-keepers of Kentucky will meet at the Exposition Building, Louisville, on Tuesday, Sept. 28, at 10 o'clock a. m., for the purpose of organizing a State Bee-Keepers' Association. After the organization is effected, it will adjourn and go to Cincinnati, to be at the opening of the National Convention the following day. I hope a full delegation will be in attendance from all the associations in the State. All bee-keepers are cordially invited to attend.

DR. N. P. ALLEN,
Sec. Southern Ky. Association.

☞ The Central Iowa Bee-Keepers' Association was organized at Grundy Center, Iowa, on the 17th inst., by adopting a constitution and electing the following officers: President—Rev. E. G. Waite, of Grundy Center, Iowa; 1st Vice President—J. H. Lighter, of Melrose; 2d Vice President—M. A. Newcomb, of Traer; Secretary—Dr. L. R. Alderman, of Traer; Treasurer—John Dixon, of Grundy Center. The meeting was small, but we regard it as a "nucleus," promising great things in the future. The bee-keepers present reported less than ⅓ of a crop of white honey. We are having a copious flow of buckwheat and goldenrod at present.

E. G. WAITE, *Pres.*

Bee-Keepers' Convention.

Arrangements are being made for the holding of a Bee-Keepers' Convention at Toronto, Canada, on the 15th, 16th and 17th of September, 1880, in connection with the great exhibition which is to be held in that city in September. Mr. D. A. Jones, of Beeton, Ont., is making arrangements for the meeting and it is expected that bee-keepers will be present from all parts of the United States and Canada. Mr. Jones is going to show at the Toronto Exhibition, colonies of bees just imported by him from the Holy Land and Cyprus, and a large collection of honey. The Industrial Exhibition Association, of Toronto, are lending Mr. Jones their influential assistance. *

Southern Cal. District Convention.

At the suggestion of many apiarists, who think that a convention of those engaged in honey-producing should be held this fall, and believing that such a general meeting would materially advance the interests of this branch of industry in Southern California, I name the 20th and 21st days of October, 1880, at Los Angeles, California, as the time and place for holding such convention, that being during the session of the Horticultural and Agricultural Fairs. A cordial invitation is extended to all apiarists in the State, and to all who feel an interest in the science of apiculture.

C. J. FOX,
Pres. Dist. B. K. Association.
N. LEVERING,
Sec'y Los Angeles B. K. Association.

Nebraska Honey Show.

On September 20, the next State Fair of Nebraska will open at Omaha and continue during the week. The committee appointed at the last regular meeting of the Nebraska State Bee-Keepers' Association to arrange for and conduct the exhibit of apiarian products and implements, would hereby request the makers of implements and supplies to notify the Committee at once of anything they may wish to exhibit, that ample space may be provided. Premiums on honey are limited to the products of Nebraska, but otherwise, are open to all competitors. Direct all communications to 820 S. Ave., Omaha, Neb.

T. L. VAN DORN.
T. S. CORBETT. } *Committee.*
J. J. MCLAIN.

North American Bee-Keepers' Society.

Programme of the Eleventh Annual Meeting, to be held in the Pavilion Hall of the Bellevue House, Cincinnati, O.

This Pavilion is capacious enough to hold the meeting, with abundant shade trees if the weather be warm, and a good hall if it be cool or wet. There is also a good place to put out colonies of bees for exhibition. Meals can be obtained at the Bellevue House at a small cost.

WEDNESDAY, SEPT. 29.

MORNING SESSION.

10 to 12.—Convention called to order.

Reading minutes of the last meeting.

Reading of correspondence.

Calling the roll of members for last year, and payment of annual dues.

Receiving new members.

President's annual address.

Reports of Secretaries, Treasurer and Standing Committees.

AFTERNOON SESSION.

1 to 5.—Report of honey crop of 1880.

Appointment of committee to nominate officers for the coming year, to report Thursday morning.

Addresses to be followed by Discussion.

The Tongues of Different Races of Bees Compared.—Prof. A. J. Cook, Lansing, Mich.

Honey-producing plants, trees and shrubs.—Dr. N. P. Allen, Smith's Grove, Ky.

EVENING SESSION.

7 to 9.—Receiving new members.

Addresses to be followed by Discussion.

Improvement of the Race of Bees.—Thos. G. Newman, Chicago, Ill.

New Discoveries in the Cure of Foul Brood. C. F. Muth, Cincinnati, O.

Peculiarities and Advantages of Cyprian Bees, illustrated by samples of bees—queens, drones and workers—from Cyprus, Palestine, historic incidents and sketches of their native management, etc.—D. A. Jones, Beeton, Canada.

THURSDAY, SEPT. 30.

MORNING SESSION.

9 to 12.—Report of Nominating Committee.

Election of Officers.

Installation.

Addresses to be Followed by Discussion.

Queens—their fertilization and peculiarities.—Dr. J. P. H. Brown, Augusta, Ga.

Comb Foundation; Its Uses, and the Best Kinds for all Purposes.—C. C. Coffinberry, Chicago, Ill.

Permanence of the Bee-Keeping Industry.—A. J. King, New York.

AFTERNOON SESSION.

1 to 5.—Balloting for time and place of next meeting.

Addresses to be Followed by Discussion.

Honey—Past, Present and Future.—J. H. Nellis, Canajoharie, N. Y.

Artificial Swarming, or How to Profitably Divide Colonies.—Chas. F. Muth, Cincinnati, O.

Wintering Bees, North and South.—T. F. Bingham, Otsego, Mich.

EVENING SESSION.

7 to 9.—Election of Executive Committee for the coming year.

Addresses to be Followed by Discussion.

How to Make Honey a Staple Product.—R. Bacon, Verona, N. Y.

Best methods for placing honey upon the market.—Thos. G. Newman, Chicago, Ill.

Do Bees Make or Gather Honey?—Paul L. Viallon, Bayou Goula, La.

FRIDAY, OCTOBER 1.

MORNING SESSION.

9 to 12.—Introduction of new business, resolutions, etc.

Addresses to be followed by Discussion.

Apicultural Failure.—James Heddon, Dowagiac, Mich.

Which is the Most Profitable, Comb or Extracted Honey?—Charles Dadant, Hamilton, Ill.

Systematic bee-keeping.—Rev. O. Clute, Iowa City, Iowa.

AFTERNOON SESSION.

1 to 5.—Reading of Correspondence.

Addresses to be Followed by Discussion.

Fine Comb Glucose Honey; with specimens and samples of my own production. This is intended to illustrate the dangers arising from "feeding back," etc.—Prof. J. Harbrouck, Bound Brook, N. J.

Bee Pasturage.—L. H. Pammel, LaCrosse, Wis.

Final business, auditing bills, etc.

Adjournment.

☞ Articles for exhibition should be sent to C. F. Muth, 976 Centre avenue, Cincinnati, Ohio, at least one week in advance of the time of meeting, with charges prepaid.

As the Cincinnati Exposition will then be in session, excursion tickets at greatly reduced rates may be obtained at nearly all railroad depots when the time comes.

The Railroads centering in Cincinnati have agreed to issue Excursion Tickets, at about one-half the usual fares. Hotels have also reduced their rates. A Transportation Circular, giving all particulars, is issued, and may be obtained by addressing Mr. H. McCollum, Exposition Sec., Cincinnati, O.

By order of the

EXECUTIVE COMMITTEE.

District Convention at Chicago.—The arrangements are now complete. It will be held at Parker Hall, corner of Halstead and West Madison streets, on Sept. 14 and 15, 1880, commencing at 10 a. m. All bee-keepers in the North Western States are invited to attend. The Gault House has reduced rates for those in attendance. Excursion rates to the Chicago Exposition will be obtainable on all the railroads.

☞ We have received the "29th Annual Report of the Indiana State Board of Agriculture, 1879." It contains the proceedings of the agricultural societies of the State, as well as the proceedings of the State Bee-Keepers' Association, making a valuable book of reference. Secretary Heron has our thanks for it.

☞ We are prepared to supply all new subscribers with the numbers from January when it is so desired.

☞ A few copies of the first edition of Cook's Manual may still be obtained at this office, at 30c. each or 4 for $1.00.

Local Convention Directory.

1880. *Time and Place of Meeting.*

Sept. 14, 15.—District Convention, at Chicago, Ill.
14—LaCrosse, at LaCrosse, Wis.
15-17—At Toronto, Canada.
20—Nebraska, at Omaha, Nebraska.
25—Northern Indiana, at Valparaiso, Ind.
28—Kentucky State, at Louisville, Ky.
29, 30 and Oct. 1—National, at Cincinnati, Ohio.
Oct. 5—Albany County, N. Y., at New Salem, N. Y.
5, 6.—Northern Michigan, at Carson City, Mich.
6, 7—Tuscarawas and Muskingum Valley, at Newcomerstown, O.
J. A. Bucklew, Sec., Clarks, O.
7—Central Michigan, at Lansing, Mich.
Geo. L. Perry, Sec., Lansing, Mich.
14—Southern Kentucky, at Louisville, Ky.
14, 15—W. Ill. and E. Iowa, at New Boston, Ill.
Will. M. Kellogg, Sec., Oquawka, Ill.
20—Southwestern Wis. at Platteville, Wis.
N. E. France, Sec., Platteville, Wis.
Nov. 9—Lancaster Co., Pa., at Lancaster, Pa.
Dec. 8.—Michigan State, at Lansing, Mich.
1881.
Jan. 11—N. W. Ill. and S. W. Wis., at Freeport, Ill.
18—Northeastern Wisconsin, at Oshkosh, Wis.
Feb. 2—Northeastern, at Rome, N. Y.
5, 6—Ashtabula Co., O., at Andover, O.
W. D. Howells, Sec., Jefferson, O.
April 5—Central Kentucky, at Winchester, Ky.
Wm. Williamson, Sec., Lexington, Ky.

☞ In order to have this Table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

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DOCTOR NUGENT, Strathroy, Ont., Canada.

BEES WANTED,

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[We will insert free of charge, under this heading, the names and addresses of persons having honey and wax to sell, giving address, description and prices; all to occupy not more than three lines.—ED.]

7 bbls. clover and basswood, extracted, at 10c., delivered on cars here, and 500 lbs. of nice comb honey, in 4½x4⅛ sections. H. F. WALTON, Woodman, Wis.

5 bbls. Extracted, to sell (2 linden and 3 poplar), 40 gallons to the bbl.; $32.50 each, delivered on cars.
B. B. TONEY, Holly Tree, Jackson Co., Ala.

Honey and Beeswax Market.

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HONEY.—Light comb honey held at 15@17c., Extracted, 6@8c.
BEESWAX.—Choice yellow, 20@23c; darker, 15@17.

NEW YORK.

HONEY.—White, in single-comb sections, 14@16c. Larger boxes, 2c. per lb. less. Extracted, 7@8c.
BEESWAX.—Prime quality, 20@22c.

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HONEY.—Extracted honey, 8@10c. Choice white comb honey, 16@18c.
BEESWAX—20@25c. C. F. MUTH.

SAN FRANCISCO.

HONEY—Comb, 12@13c.; Extracted, 7@8c. ℔ lb.
BEESWAX—22@24c. STEARNS & SMITH.

DISSOLUTION NOTICE.

Notice is hereby given, that the co-partnership heretofore existing under the name of THOMAS G. NEWMAN & SON, is this day dissolved by mutual consent. All accounts due to the said firm must be paid to Thomas G. Newman, who will also pay all claims against the late firm, and continue the publication of the AMERICAN BEE JOURNAL and Bee Books and Pamphlets. The business of dealing in Bee-Keepers' Supplies will be continued by Alfred H. Newman. Dated at Chicago, Ill., July 1, 1880.

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Timber Land in Northern Florida—640 acres—about 50 miles south of the Georgia line, 25 miles west of Tallahassee, and near the Apalachicola river. Title clear and unincumbered. Will sell cheap for cash, or trade for a farm, apiary or other property. Address, with particulars, FLORIDA LAND, care AMERICAN BEE JOURNAL, Chicago, Ill.

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1865.— THE —1880.

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AND BEE-KEEPER'S ADVISER.

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Send for Circular and Sample.
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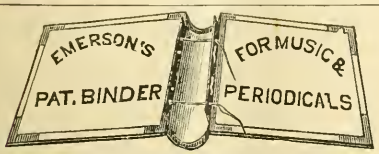

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7-9 **R. MILLER,** Compton, Lee Co., Ill.

Italian Queens or Colonies.

Eighteen years' experience in propagating Queen Bees from imported mothers from the best districts of Italy. Persons purchasing Queens or Colonies from me will get what they bargain for. Send for circular.

WM. W. CARY,
3-tf Colerain, Franklin Co., Mass.

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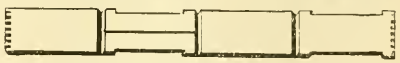

Send for price-list of Hives and the "Boss" one-piece section (no longer called the "Lewis" Section.

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Watertown, Wis., Sept. 1, 1880. 9-tf

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One queen, $1.50 ; six, $8.00 ; twelve, $15.00. Beautiful Italian queens, $1.00 each, or twelve for $10.00. All queens sent by mail. Purity and safe arrival guaranteed.

Remit by money order on Salem, Mass., postoffice, registered letter or by draft.

H. ALLEY, Wenham, Mass.

DOOLITTLE makes a specialty of raising fine comb-honey, while

W. Z. HUTCHINSON,

Rogersville, Genesee Co., Mich.,

Makes a *specialty* of rearing **FINE ITALIAN QUEENS.** All queens bred from imported mothers, and the cells built in full colonies. **No Black Bees in the vicinity.** Single queen $1.00 ; six queens for $5.00 ; twelve for $9.00 ; twenty-four or more, 65 cents each. Tested queens, $1.50 each. Safe arrival, by mail, guaranteed. For $1.25 extra, queens will be sent by express, *good, strong, 2-frame Nuclei.* Send money by draft, registered letter, or by P. O. money order drawn on Flint, Mich., as Rogersville is not a money order office. A neat little circular and price list, printed in bright colors upon the cheirograph, will be sent free upon application.

N. B.—A large stock of fine queens on hand, and orders filled promptly. 9-1tp

Tested & Imported Queens

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MODEST BEE HIVES,

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Dundee, Kane Co., Ill.

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The number and the character of the commendations of this book, that we are continually receiving, prove very conclusively that it is a plain, practical work, invaluable to the beginner as well as to the more advanced bee-keeper. Price, postpaid, **$1.50.**

If you desire practical information, such as has enabled us to secure over 15,000 lbs. of honey from 176 colonies, the present poor season, send for our fall circular. Address,

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We now receive Cyprians every two weeks, *via* Italy, and can sell them at the following prices:

Select Imported Cyprian.....**$10 00**
Common " " **8 00**

Send for Supplement to our Circular.

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PRIZE-BRED ESSEX PIGS.

Essex are the best Farmers' Pig; have been known to dress 90 per cent. of live weight; small bone, light offal, quick to mature. Jos. Harris, author of "Harris on the Pig," etc., says of my Boar "Porter," that he is the finest Essex Pig he ever saw. A few **Pedigree Pigs** for disposal at moderate prices, suitable for breeding or exhibition. Personal inspection of my stock is solicited. All correspondence will have cheerful and prompt attention.

C. W. CANFIELD, Athens, Pa.

N. B.—A limited number of Eggs for hatching from prize-winning Brown Leghorns and Black Red Bantams, at $2.00 per 13. Warranted to hatch. 4-yl

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Friends, if you are in any way interested in

BEES OR HONEY

We will with pleasure send you a sample copy of our

Monthly Gleanings in Bee-Culture,

with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Artificial Comb, Section Honey Boxes,** all books and journals, and everything pertaining to Bee Culture. *Nothing Patented.* Simply send your address on a postal card, *written plainly,* to A. I. ROOT, Medina, O.

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What we eat and what we should eat. 200 pages. Paper cover, **50c.,** postpaid. Sold by

THOMAS G. NEWMAN,
974 West Madison Street, Chicago, Ill.

AMERICAN BEE-KEEPERS desirous of staying awhile in Bohemia (German-Austria) will find the best accommodation at my country residence in Troja, near Praga. No charge for lodgings; board according to agreement. R. MAYERHOEFFER, 747 Breitgasse, Prague, Austria.

THE AMERICAN

BEE JOURNAL

Devoted Exclusively to Bee Culture.

Vol. XVI. CHICAGO, ILLINOIS, OCTOBER, 1880. No. 10.

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Editor's Table.

☞ The editor of the BEE JOURNAL has, by particular request, agreed to give a lecture at the Nebraska State Fair at Omaha, on Sept. 24th. Subject: "Bee-Keeping a Science."

☞ A correspondent desires to know if it will do to sow melilot clover now; and if sown now, will it bloom next year? Now is the best time to sow it. It will bloom but little next season, and that quite late.

☞ Reports received during the past month assure us that the fall honey harvest has been large. Bees now have, in many localities, enough for their winter use. A failure three years in succession is hardly possible, and we confidently expect a full crop next year.

☞ Careful handling of bees will sometimes cure those that are irritated, but they remember careless and rough treatment for a long time, and often it takes a new generation to get over the disposition to pay someone out for any heedless management.

☞ The more a man knows about any subject the greater will be his charity for and sympathy with views differing from his own. It is only the inexperienced that is ever ready to abuse any one differing from their pet notions. "Charity suffereth long and is kind," said one of old.

Obtaining Cheap Notoriety.

Some persons, to attain notoriety, will descend to the use of the most diabolical means. They have a contemptible way of selecting a prominent individual to abuse and defame, without a shadow of excuse, save the attainment of that notice which they covet, and which they could obtain in no *honorable* way. This is forcibly illustrated by the following scurrilous language applied to America's greatest living bee master, the Rev. L. L. Langstroth, by the little monthly which has been selected by the "co-operative" clique to be their organ :

"Rev. Langstroth was not the originator of the first movable frame hive, and we know it." "He *stole* that movable frame idea from another party and then patented it, thereby practicing a *fraud* on the people and taking the reputation that rightly belonged to others, *for which he is getting his just retribution.*" "What egotism, or what ignorance. Just think of a man who pretends to have sense and brains to write a treatise on bee-culture (Prof. Cook), who says that Langstroth is the inventor of a bee hive."

Such insinuations are both infamous and unpardonable! Is it not a *crime* to thus maliciously charge with fraud, lying and stealing, a man who has done so much for the advancement of scientific apiculture, and spent his life in its study and development?

Is it not *infamous* to thus attempt to rob an old gentleman of his well-earned reputation, when he is utterly unable to help or defend himself, by reason of physical suffering and wasting disease?

Is it not *blasphemous* to thus intimate that his afflictions are a retribution visited upon him by the Creator, in whose service his life has been spent, and to whose glory every act has redounded?

Think of the *cowardliness* of the assault on one who has suffered so much to advance the interests of the bee-keepers of America—who, by reason of affliction, has now passed from the stage of active participation in the cause he loved so well!

His work is now done, and he only awaits the angel's call to that "rest for the weary, where the wicked cease from troubling." Standing on the brink of the vast ocean, we watch with intense anxiety until the last struggle is over, when he will sink beneath death's yielding wave.

Apiarists the world over unite to honor his memory, and his name will adorn the pages of history as one of the greatest apiarists the world ever produced; while the sycophant who attempted to ruin the fair reputation of that great and good man will be execrated, and his name will be buried in oblivion!

☞ The Convention at Chicago was very interesting and instructive, and we have no doubt that the "Northwestern Bee-keepers' Society" there organized will become one of the most valuable societies of America. The selection of Dr. Miller, for President, was a wise choice, as he is one of the best and most successful apiarists of the west. Mr. G. M. Doolittle, of New York, was enthusiastically welcomed, and made many warm friends. Signor Mihl, a bee-keeper from Spain, who is spending a short time in America, to obtain information respecting our methods and management, gave an interesting account of bee-keeping in Spain. Great unanimity prevailed, and a sincere desire was manifested to act harmoniously on all important measures. Conventions, carried on in this manner, are always beneficial; but those where personal animosity and strife are allowed to enter are but a detriment, and should be discarded by all right-minded persons.

☞ The preparation of bees for winter should now be the study of all judicious bee-keepers. If not yet decided as to how to prepare them, read up at once, apply the knowledge obtained to practice, and be prompt in making all the necessary arrangements.—The different plans of wintering have been so often described in the BEE JOURNAL, that it will be only necessary to "read up" on that subject to gain all the information necessary to winter successfully by any ordinary method.

Are Bees a Nuisance?—Mr. B. B. Barnum of Louisville, Ky., has sent us a copy of the *Louisville Courier-Journal*, containing the following item:

"A case of stinging by bees in Philadelphia is thus referred to by the *Times*: 'There is no law in relation to the keeping of bees within the city, but should it become objectionable to three or more neighbors, then it could be declared a nuisance and the owner of the bees compelled to abate it. Where only one person suffers, his only course for redress is a civil suit for damages or a bill in equity to compel the abatement of the nuisance.' Here is another instance of idiotic law-making. A nuisance is a nuisance just as much in the case of one person as in that of a dozen. A civil suit ought to be unnecessary in any plain case."

Mr. Barnum writes: "If one case of stinging by bees is sufficient, then goodbie to bee-keeping in this city.

The BEE JOURNAL apiary contains about seventy colonies now, having sold down from over a hundred, and is situated within 250 feet of a crowded thoroughfare, but we have no complaints from people being stung. Our bees are all pure Italians and usually as harmless as flies. Those keeping bees in cities should keep only the most docile kinds, and there would then be no trouble about the neighbors being stung by them.

☞ Foul brood, that most dreaded of all bee diseases, has again made its appearance in Michigan. The Southern Mich. Bee-Keepers' Association held a meeting at Battle Creek on the 2d. ult., to take the matter into consideration, and learn the best means of curing it. The report of this meeting will be found on page 459, and, on page 479, we have given a full description of its cause and cure from the German *Bienen Zeitung*. Those who desire to know anything of this disease will read it with interest.

I have obtained 4,000 lbs. of comb honey and 1,000 lbs. extracted from 85 colonies in the spring, besides 15 swarm.

GUSTAV ILISCH.

Hickman, Ky., Sept. 14, 1880.

Asters—Fairs.—Can you tell me the names of the enclosed specimen? It is closely allied to the golden rod, and is an excellent honey plant. It blooms late in autumn and even a little frost will not injure it. I have just returned from the county fair, where I had some honey on exhibition in 2 lb. sections. It attracted the attention of everyone for its very neat and beautiful appearance; 40 lbs. of this very beautiful honey was taken off at one time, from a 10-frame Langstroth hive.

L. H. PAMMEL, JR.

LaCrosse, Wis., Sept. 18, 1880.

[Yes; this is an aster.—ED.]

☞ The *Dominion Pet Stock Bazaar* is the name of a new paper published in Toronto; Mr. G. Hooper is its editor. It contains eight pages, one of which has items on bees. It is proposed to issue it under the name of the *Dominion Apiarian Bazaar* if sufficient encouragement be given it.

☞ On the 18th. ult., an apple tree near our residence, bloomed for the second time this season, giving bees an excellent feast. We sometimes hear of such, but it rarely occurs. The foliage was nipped by a frost, and fell off; the sap, remaining in the tree, caused this second bloom.

☞ On page 406, of the JOURNAL for September, Mr. Bagby mentions two fertile workers, sent me for dissection. I have dissected only one of them, and she seems to be a perfect worker in all respects except in the development of her ovaries. There is no spermatheca to be seen.—A. J. COOK.

☞ In an exchange we see that it is stated that a French traveler, M. Pierre Arnoux, while traveling lately in Abyssinia, discovered in small cavities of the soil a species of honey without wax, produced by an insect resembling a large gnat. Its composition resembles that of the manna of Sinai and Kurdistan, and the sugar found in the leaves of the plane tree, as well as ordinary honey; but it is distinguished from all these by the total absence of cane sugar.

A Swarm of Bees Capture a Car.

The Leavenworth, Kan., *Times*, gives the following details of a swarm of bees that lately came to that city on a quiet Sunday afternoon. The *Times* says: "When the Chicago, Rock-Island & Pacific arrived it came in under a cloud. A large swarm of bees settling on the top of the car while near Beverly, in Missouri, took deck passage for Kansas, and the fears of the conductor and other men on the train of a stinging rebuke prevented any attempt to put the dead-heads off. When the car arrived here Police Officer McCart was apprised of the fact that he could take in a number of prisoners if he would visit the car. He went to investigate, and finding the bees snugly ensconced on their novel abiding place, proceeded to effect their capture by coaxing them into an empty keg. He succeeded in capturing the entire swarm, taking more prisoners than he will have at any one time while he is on the force. He says they are doing well."

"What we Eat."

The *American Poultry Journal* speaking of the new work on "Food Adulteration," says:

A subject in which every one is interested, discussed in a manner which every one can comprehend, should constitute a popular book, and such a volume is just issued under the title of "Food Adulteration; or What We Eat and What we Should Eat."

The writer, with the assisstance of competent chemists and micrologists, among whom may be mentioned Dr. R. U. Piper, Dr. T. D. Williams, and Prof Geo. A. Mariner, has made over five hundred analyses and microscopical examinations of articles of food procured from the grocery shops and such as are daily supplied the consumer throughout the country. The results of these examinations are simply appalling. The sophistication of articles of food is a subject which has attracted more or less attention in England, France, and other foreign countries, and it is a severe commentary upon the enlightenment, as well as the morality of our own Government, that while the consumer of the Old World is protected in person and in purse against the health-destroying adulterations and shameless frauds practiced by unscrupulous purveyors of food, there has been as yet no general legislation upon this subject this side the waters.

There is not a page in this little work which cannot be read with interest and profit, and it should find its way into every family of the country, where it should create a sentiment to demand the correction of this great and growing evil. The chapters upon "Oleomargarine" and "Glucose," the modern substitutes for butter and sugar, will be found especially interesting. The valuable paper treating upon the first named subject is from the able pen of Dr. Piper, and is interspersed with original microscopic drawings showing what the doctor has, with the aid of his instruments, actually discovered in this latest abomination of the adulterations.

It is beautifully printed and handsomely illustrated and is for sale at this office. Price 50 cents.

Suspended.—In the BEE JOURNAL, for May, page 217, we stated the fact that another bee paper, entitled "Our Apiary," had made its appearance. Now we find, in the New York Newspaper Reports for August, page 733, that it has been "suspended for want of sufficient support." Any enthusiast, with a few dollars, can get out a number or two of a paper with 8 or 16 pages, but it takes money to successfully publish a bee paper that will be of value to bee-keepers. The one just deceased was published at 50 cents a year, and at that price it could neither do justice to itself nor its patrons, hence both are probably disgusted with the enterprise. When the AMERICAN BEE JOURNAL was started, there was no paper published in America, "devoted exclusively to bee-culture." Since then, seven have started and died, and six besides the AMERICAN BEE JOURNAL are now being published, making seven in all. With a field already too much occupied, who will be the next to venture? We shall see.

☞ Take advantage of the first favorable weather to look over the bees, and prepare them for winter.

Display of Bee Furniture.

We have received a copy of the Lexington, Ky., *Daily Transcript*; containing the following notice of the exhibit made by Williamson & Brother at the Fair:

The fine display of bee-keepers' supplies made by Williamson & Bro., of this city, on which they took the premium, deserves special notice. Perhaps no display in Floral Hall attracted more attention, and was less understood by the majority of visitors. Even a great many bee-keepers do not know the innumerable number of implements used in the successful management of the apiary, such as bee-veils, queen-cages, honey extractors and knives, comb foundation, section frames, bee feeders, bee smokers, rubber gloves, honey jars, &c. of different makes and styles of the above articles to suit the fancy of all.

Their beautiful display of honey was greatly admired.

The greatest novelty in their display is perhaps the Queen Hatching Nursery for raising queen bees by steam. It is a square box, with an inside tin box with double walls, and a space between all around, in which is placed water heated by lamps below. The thermometer is kept at about 100° Fahrenheit. The queens can be seen emerging from their cells, which resemble a peanut.

Their observation hive of Italian bees were admired above all else in their display; probably because everybo .y knows they "improve each shining hour," and moment, too, when in a stinging mood.

They have also in their display all kinds of bee literature, and it seems to us that such displays cannot receive too much encouragement at the hands of the Association. We hope to see this branch of industry encouraged.

The Fair Directors say that the lively interest displayed in this exhibit, and the *attraction* that it proved to be, will warrant them to offer larger premiums next year. Keep the ball rolling!

☞James McIntyre, London, Ont., writes: It has been said a bee-hive is the poorest thing in the world to fall back on. Let no one believe it; for there is nothing in the world that will raise you up again so quickly!

Is it a Superior Strain of Bees?

Mr. Otis Ames, Fort Fairfield, Maine, writes as follows:

I had but 1 colony of Italians and that one cast a swarm on June 10th, a second on June 16th, a third on June 18th, and a fourth on June 20th, making 4 in 10 days; they were put in Gallup hives containing 1,900 cubic inches; they have all built up and gathered 88 lbs. of comb honey; the fourth produced 12 lbs. The first swarm that came out on June 10th, cast a swarm July 18th, and second July 31st, and they have each filled their hives of same size as the others. They have a plenty to winter on. The parent colony, after swarming four times, produced 48 lbs. of comb honey, which is 136 lbs. from 1 colony and its increase of 6, so that I now have seven.

If any of the readers of the AMERICAN BEE JOURNAL can beat that, this season, I should be pleased to hear from them. Now, Mr. Editor, is that an every day occurrence for Italians, or are mine an extra strain of Italian bees? I never had them before and I do not know what they will do on an average.

This has been rather a poor season here, not more than ½ a crop. I put out 57 colonies last spring, 10 weak and the rest in fair condition. I have 2,000 lbs. of comb honey, which is about 35 lbs. on an average, per colony. In the year 1870, my average per colony was 60 lbs. I have increased to 89 colonies by natural swarming this year.

[Such a report as the above, in a poor season, is quite refreshing. This is another proof of superiority for the Italian race.

☞Just at the hour of going to press, we have received the minutes of a very interesting meeting of the Northwestern (Mo.) Bee-Keepers' Association, and a copy of the St. Joseph *Democrat*, containing a lengthy editorial notice of the same. R. S. Musser, Secretary, writes: "The AMERICAN BEE JOURNAL was awarded the premium at our Exposition for the 'Best Bee Journal.'" The Association adjourned to meet in St. Joseph, Mo., on the 13th inst., at the Court House. All interested in bee-keeping are cordially invited to attend, as there will be many questions of importance brought up for discussion.

Does it pay to Plant for Honey?

In confirmation of the advice given by the BEE JOURNAL, we notice that many are now advising to plant for honey. Mrs. L. Harrison, in the *Prairie Farmer*, says:

Wherever the apiarist may be located, he should observe the time of the year, when a scarcity of honey is likely to occur, and provide, if possible, for this contingency, and by taking note of the few nectar yielding flowers at this time, will discover what could be cultivated to advantage. In our dry sandy soil, which is so easily affected by drouths, we fail to find a better honey plant than sweet clover (*Melilotus alba*), blooming from the middle of June until late in autumn. "It is mete" that we should talk about these things now, for the seed is ripening, and if it is scattered now upon the highways, gravelly banks and waste places generally, as it is self-sowing and not eaten by stock, the honey flow may be materially increased. One honey producer furnishes this seed to hands working along the railroads, who carry it in their pockets at all times, sowing it wherever they disturb the soil.

Sweet clover has a twin sister, known among bee-keepers as the Rocky Mountain bee plant (*Cleome integrifolia*) whose habitat is Colorado, and that region formerly known as the Great American Desert. It cares not for drought, but will put forth its leaves and expand its pink petals "alle samee."

Catnip (*Nepeta cataria*) furnishes nice white honey, blooming during July and August, and as it, and the rest of the mint family, are great favorites of the busy bees, they should receive fostering care by bee-keepers.

Convention at New Boston, Ill.—The eighth semi-annual meeting of the Western Illinois and Eastern Iowa Bee-Keepers' Society, will be held at New Boston, Mercer Co., Ill., Oct. 14 and 15, 1880. All are cordially invited to be present. The usual programme of discussions, prizes, lectures, etc., will be carried out as formerly. The committee of reception will receive and exhibit free, all articles sent by bee-keepers or manufacturers, if sent to L. H. Scudder, New Boston, Ill., and charges prepaid. WILL. M. KELLOGG, *Sec.*

Bees have done tolerably well here; I have obtained 50 to 60 lbs. of comb honey from 2 colonies; no extracted.

Clyde, Kan., Sept. 8. C. M. GAYLORD.

"The Bee of the Future."—The Austrian *Bienen-Zeitung*, referring to this subject, remarks as follows:

"Friend Newman names the American bee as the bee of the future! True it is, that the American apiarists have gained brilliant results, but neither honey nor bees do it all alone; there must be a working together of many factors. If we only had America's wealth of honey-plants, we certainly could do as well as they can, with our degenerated European bees. But we do not intend to say, that nature alone does all the work for the Americans, without any exertions on their part. No, indeed; but they understand better how to make nature subservient to their purposes. Just as high as we stand in theory do they stand in practice, and in the latter we must try our utmost to catch up with them, and, if possible, to get ahead of them."

☞ The "co-operative" paper has at last appeared, and it is to be hoped that the *few* morbid individuals will now be happy—at least for a time. As was generally expected, it overflows with false assertions, distorted facts, garbled quotations and malevolent abuse. This is not only heaped upon the editor of the AMERICAN BEE JOURNAL, but also upon the Rev. L. L. Langstroth, Prof. Cook, Rev. O. Clute, Mr. G. M. Doolittle, Mr. T. F. Bingham, &c. For all this there can be but one object, and that is to advertise the "co-operative" paper. In our April number we briefly answered these calumnies, and do not propose, by their stale repetition, to be badgered into further controversy.—New matter *only* is worth answering. Those who relish abuse and vile slander might take the "co-operative" paper, but those who desire one devoted to apiculture will certainly choose some other.

☞ "Always in demand and always brings the highest price," is what is said of nice comb honey, put up in the most attractive shape. Those who produce comb honey in a poor and unsalable shape only work against their own interests. To aim for the *best*, should always be our motto.

Something about the Convention.

The Cincinnati *Gazette* has the following notice of the National Convention, and facts and figures concerning bee-culture which will be read with interest:

The American National Bee-Keepers' Association will hold their Convention in this city, on the 29th and 30th of September and 1st of October. There will be delegates present from all parts of America. Every State of the Union will be fairly represented, and a large number of bee-keepers are expected to participate in the proceedings. One republican feature of the Convention will be that not only delegates will be admitted to the various discussions, but every one who has an interest in bee culture. Among the topics to be considered will be the progress of the science of bee culture and the present and future state of the honey market. A most interesting item will be the discussion of the many improvements which have been made in the various departments of bee raising within the past few years. The progress in this direction has simply been wonderful. The honey extractor, an invention of Maj. V. Hrushka, improved upon by numbers of others in many ingenious ways, has been in use now about 12 years, and has wrought quite a revolution in the production of honey.

It works on the principle of centrifugal force, somewhat in a manner of a winnow, and preserves the honey comb entire. This fact, together with the invention of comb foundation, which is far more perfect and suitable than the natural comb, has been instrumental in increasing the honey yield more than four fold, for under the old system, when the bees were obliged, after every destroyed layer of honey, to build one afresh with long and continuous toil, they consumed between 20 to 30 lbs. of honey in order to manufacture 1 lb. of comb.

Before the invention of this extractor, the so-called Cuba honey flooded our markets. It was produced wild in the trees of the West India Islands, and with larvæ in different stages of development, and bee bread and other impurities mashed into a promiscuous mess, and thus shipped to New York and Boston. Druggists then pretended to cleanse and clarify it, but it was not always done, and besides it was almost impossible to make it a palatable article, or fit for the use of the sick. Now a much finer article is used, even for manufacturing purposes.

Bakers, tobacconists, meat curers, druggists, compounders of liquors, and other manufacturers use honey extensively, though they do not require for their purposes the choicest of all brands the white clover honey, but instead the linden, buckwheat, or poplar honey.

The white clover honey is confined to table use and medicinal purposes. Jacob Vogel, pork packer in this city, buys a barrel of honey every other week from Mr. Muth for curing hams.

The business in this sweetest of all products has grown to be immense in the United States. Thurber & Co., in New York, in 1879, sold in one week 65,000 lbs., and during the year over 1,000,000 pounds of honey. In regard to the capacity of the States, California produces the largest quantity, being the most abundantly blessed with a variety of honey producing flowers.

As regards quality, no better honey is raised than in our immediate vicinity, because the bees can scarcely feed on anything else here save white clover. If the Southern people showed the same energy in the cultivation of bees as is displayed in the Northern States, they would outdo even California in an immensely productive yield of honey. There is an inexhaustible supply there of honey producing flowers. Carloads of the product are shipped from the States of Michigan, Wisconsin, Louisiana and Mississippi. Mr. Muth received recently a shipment of several thousand pounds of honey from Dr. O. M. Blanton, Greenville, Miss., and pronounces it the finest that he has ever received from the South. He has a large apiary, and bestows all his care and attention upon the subject of bee culture. Cincinnati and vicinity have not been slow in cultivating this interesting science, and most profitable investment. There are several large apiaries in and about the city, among which may be mentioned those of Chas. F. Muth, Joseph Savage, Ludlow, Ky., who bestows most of his time to queen-rearing; J. S. Hill, of Mt. Healthy; King Kramer, Dry Ridge; Richard Curry & Bros., East Walnut Hill; J. Coates, White Oaks.

Mr. J. S. Hill has 120 colonies and possesses the finest apiary in the Western country, beautifully laid out, and artistically managed.

Mr. Curry is also an enthusiast in the science, and has been very successful in the plentiful production of honey. It is safe to say that in a good season the yield of Cincinnati and vicinity will amount to over 100,000 pounds.

No one here has bestowed more time and careful study to the subject than

Mr. C. F. Muth, 978 Central avenue. He has been in the business over 20 years, and has had an apiary at his present stand for 18 years. For the past 15 or 16 years his bees have not swarmed, excepting once about two years ago, which was caused by a slight inadvertence. He says that by keeping the hives large enough for the increase of bees, and at the same time sufficiently small for an abundant supply of honey, all swarming may be avoided.

Mr. Muth sold over 200,000 pounds of honey last year, and his business has increased steadily. His apiary perched on top of a two-story roof in the rear of his house is a perfect curiosity and worth a visit. He has 40 colonies, all in active operation. The yield during the past season has been exceedingly poor, only 15 lbs. to each hive; in fact, though the preceding 2 years have been very meager in their honey productiveness, the present one has been the most meagre of all. There was an abundance of fruit blossoms in the early spring, and locust flowers, and white clover in the month of June, but somehow there were no honey secretions, and the bees returned minus the sweet essence. His bees feed on the clover of the hilltops, and the flowers that are found in the immediate suburbs, especially the country about Cumminsville. Three years ago he averaged 198 lbs. of honey for each hive, and the preceeding year 170 lbs.

Mr. D. A. Jones, of Canada, recently made a trip to the Isle of Cyprus, and brought with him about 200 fine specimens of queens, which may in course of time supplant the present Italian progeny, on account of their superior skill and productiveness. They are considered more agile and strong than the Italian queens, and some of our home bee-keepers will give them a fair trial.

Mr. Muth bought a large number of Egyptian queens about 5 years ago, and found them almost superior to the Italian, but they were intractable, and would not allow the honey to be taken away from them, in consequence of which he was obliged to destroy them. The science of bee culture has grown to be very systematic of late years, and the raising of pure stock has been conducted on as correct and scientific principles as the breeding of blooded horses and stock. From certain colonies queens are raised, from others drones, and both at pleasure, and the beauty is that the several families can be kept entirely separate and distinct from each other.

Langstroth's hive is the one that is generally in use, and has movable combs in the brood chamber. Above the brood chamber is an arrangement of 3 sectional boxes, each containing 8 small frames for the accumulation of comb honey. Each of these frames holds from 1½ to 2 lbs. of the product. Other hives are arranged with 10 large frames of comb in the honey chamber for the production of extracted honey.

The study of bees is one of the most absorbing and useful, and the work of the coming Convention will be considered with interest by those who can appreciate the animal type of industry and the sweetest product of nature.

National Society Officers for 1879-80.

The following is a corrected list of the officers of the North American Bee-Keepers' Society:

President—Thomas G. Newman, Chicago, Ill.
Recording Sec.—Ehrick Parmly, New York.
Corresponding Sec.—O. Clute, Iowa City, Iowa.
Treasurer—F. A. Dunham, Depere, Wis.

STATE VICE PRESIDENTS.

Alabama—J. A. Austin, Huntsville.
Arkansas—Dr. W. W. Hipolite, Devall's Bluff.
California—C. J. Fox, San Diego.
Colorado—J. L. Peabody, Denver.
Connecticut—H. L. Jeffrey, Woodbury.
Dakota—Calvin G. Shaw, Vermillion.
Florida—Dr. J. M. Keyes, Iola.
Georgia—Dr. J. P. H. Brown, Augusta.
Illinois—E. J. Oatman, Dundee.
Indiana—Rev. M. Mahin, Huntington.
Iowa—E. D. Godfrey, Red Oak.
Kansas—D. P. Norton, Council Grove.
Kentucky—N. P. Allen, Smith's Grove.
Louisiana—Paul L. Viallon, Bayou Goula.
Maine—J. H. Spaulding, Augusta.
Maryland—J. M. Valentine, Double Pipe Creek.
Massachusetts—Dr. E. P. Abbe, New Bedford.
Michigan—Prof. A. J. Cook, Lansing.
Mississippi—Rev. J. W. McNeil, Crystal Springs.
Missouri—P. P. Collier, Benton City.
Nebraska—George M. Hawley, Lincoln.
New Hampshire—J. L. Hubbard, Walpole.
New Jersey—Prof. J. Hasbrouck, Bound Brook.
New York—A. J. King, New York.
North Carolina—T. B. Parker, Goldsboro.
Ohio—C. F. Muth, Cincinnati.
Ontario—D. A. Jones, Beeton.
Pennsylvania—W. J. Davis, Youngsville.
Quebec—Thomas Valiquet, St. Hilaire.
Tennessee—S. C. Dodge, Chattanooga.
Texas—F. F. Collins, Cuero.
Vermont—Jacob Ide, Passumsic.
Virginia—J. W. Porter, Charlottesville.
West Virginia—E. W. Hale, Wirt C. H.
Wisconsin—Christopher Grimm, Jefferson.

☞Some persons complain of our discontinuing their papers, if not promptly renewed. To accommodate such as desire it continued and wish a few weeks "grace," we will in future so mark their papers and continue a short time, if they will send us a "card" requesting it. We desire to accommodate all, but can not think of adopting the credit system again.

Conventions.

Southern Michigan Convention.

A special meeting of the Southern Michigan Bee-Keepers' Association was held in Battle Creek, Mich., on Thursday, Sept. 2, 1880. Over 30 members were present and took part in the discussions. Letters were read from Mr. James Heddon, Mr. J. H. Townley and others, and the question of foul brood was discussed.

The crop reports of 34 bee-keepers were as follows: From 518 colonies in the spring they had 377 swarms, 2,586 lbs. of comb honey, and 695 lbs. of extracted; being a little over 6 lbs. to each colony in the spring. Mr. Heddon reported no fall honey, and not one-fifth of a crop. Mr. Townley had obtained but 40 lbs., but if the weather continued favorable he might obtain 2,000 lbs. more.

Mr. Heddon's essay was as follows:

The Honey Producer's Future.

The poor season, though very hard on us, especially those of us who are largely spread out in the business, will, I feel confident, prove a blessing to us. It will teach us that bees do *not* "work for nothing and board themselves." It will teach us not to rush our honey into the market all at once, but to hold for a remunerative price. If one-fourth of a crop will bring one-half more price, let us sell our next good crop in fourth lots.

The honey-producer's future looks brighter to-day than for some time past. The new and useful improvements, such as foundation, etc., together with our accumulated knowledge of manipulation, and last, but not least, the export trade in our product, all whisper "Success." I rejoice that I am thus enabled to conscientiously own that our prospects look brighter.

The large, yes, almost unlimited foreign demand for honey, will prevent a glut in the market; and now, bee-keepers, it rests with you to use discretion with the source of our product—*the field*. No wise apiarist will try to produce honey in a range already occupied by another. From the unwise, little fear of successful opposition need be entertained. Thousands of good locations are yet unoccupied, and if it will not pay the would-be honey-producer to remove to them, it certainly will not pay him to labor in a divided field.

FOUL BROOD.

I am pained, but not very much surprised, to hear that this most dreadful of all our enemies is at work among you. I think you will remember seeing something from my pen in regard to the great caution we should use when purchasing bees from different parts of the country. I have no doubt but that you got your start in this dreaded scourge from some *imported* queen and her attendants. I have always used the greatest care when opening communication with other apiaries. In fact, I have done but little importing from other bee-gardens, just through my caution in this respect. One remark in your letter induces me to say, that there has never been a cell of foul brood in this vicinity. I will pay $100 to any committee who will find a cell of it among my 500 colonies. My motto is, "An ounce of prevention is worth a pound of cure." If I had it to cure, however, I should purify by cremation, as I am not posted in regard to any other effectual method.

I hope your Convention will become wise, both in prevention and cure. I feel that you may be working for me against the day I may find it here. I am determined to postpone that time as long as possible, and to that end I have dissuaded all bee-keepers in this vicinity from promiscuously purchasing bees from other apiaries. JAMES HEDDON.

Dowagiac, Mich.

The following essay was read on

Foul Brood:

Having been called upon to give my views and experience in regard to foul brood, and being requested by brother bee-keeper whose apiaries are attacked by this most dreadful of all diseases the bees are subject to, I will endeavor to comply with their requests. If not arrested in time and cured radically, this evil will spread over all the surrounding country, wiping out of existence thousands of colonies. The worst of it is, that in all places where this disease appears, bees brought from a distance, not affected, are just as liable to have it, even if you have killed and burned your affected bees, comb and honey. If you wish to rid your apiary of this evil by cremation, you will not only have to burn your bees, comb and honey, but all your hives, too, your implements, your clothes, in fact everything having been carried, worn or handled in an affected apiary.

Experience in Germany, as well as in this country, has convinced others, as well as myself, that this disease is contagious in the highest degree; further, that all means, medicines and chemicals employed failed to cure it, up to a very recent date. The most extreme measures were adopted to eradicate this evi]

by burning hives, bees, implements and all; still, after a year or two, the disease would make its appearance again in the same yard. The medicines used were of such a nature as either not to arrest the disease at all in its progress, or to kill bees and brood.

As I have said before, this practice of cremation has been in vogue in Germany up to a very late date, until finally the true nature of the disease was discovered, and at the same time the remedies and methods of successful treatment to combat the malady were introduced. I am proud to say that this was done by my countrymen, and I take the liberty to mention the names of some of the leading men who have contributed so much toward conquering this dreadful plague. They are Schonfeld, Kolbe and Hilbert. Schonfeld discovered the true nature of the disease; Kolbe discovered the remedy, and Hilbert the method of treatment.

Now, what are the remedies, and what is a proper course of treatment, and what is the nature of the disease? To spend much time in answering the last question I consider useless, for I suppose that progressive bee-keepers, which I take you to be, will get all the information possible through the press, taking and reading carefully bee journals and books on bee cultture, some of which contain concise instructions in regard to the nature of the disease. Suffice it to say, that it is a process of putrefaction induced by the presence of bacteria, a low form of animal life pervading the honey and stomach of the bees, the germs of which are so small that the slightest whiff will carry them not only from one hive to another, but from one apiary to another. Short as this answer is, it will probably be satisfactory, at least to the average bee-keeper, who very likely does not care, nor has the patience to listen to a lengthy scientific exposition of the whole subject.

The nature of the disease indicates the remedies. All antiseptics, remedies which arrest or prevent putrefaction, are employed, some in certain cases where others will not do. Such antiseptics are the following: Salt, alcohol, sugar, soda, arsenic, thymol, phenol, salicylic acid, and others too numerous to mention. Some of these, and others not mentioned here, have been employed to cure foul brood. The properties of such remedies must be of a nature to be certain destruction to the bacteria and their germs, and harmless to bees and brood.

Any chemical having this property, either singly or in combination with some others, is good. Some of these you will have found recommended in books and bee journals as a sure cure for foul brood. Now, some claim success with one, by the use of which another has failed entirely. Why this difference in success? I will answer this question by proposing another: Why are some bee-keepers successful as honey-producers, while others make a total failure of it? It is the method they pursue, and some follow no method whatever. Still, to lay down a certain rule, a course by which to succeed in bee-keeping, is an impossibility, as the method has to be varied according to circumstances. To further illustrate: Neuralgia is a disease of the nerves, and a most painful one as I happen to know. The remedies are aconite, arsenic, belladonna, quinine, salicylic acid and numerous others. Hence, "What is one man's meat, may be another man's poison;" which proves that it requires a man well versed in the different methods of treatment to choose the right, and also proves that it is quite impossible to lay down a certain course to be followed in curing foul brood; especially as you are well aware there are two distinct types of this disease, which require a judicious and different treatment in the different stages of the disease and the malignancy of each case.

Burning the visibly affected colonies would not be of much avail, for the rest of the colonies, or some of them, may have come in contact with germs, though the disease is not discernible to our senses, not having had time or the proper condition to make its spread in the hive, and one colony after another will succumb and have to be burned, until the whole apiary is "cleaned out." The curative method not only arrests the disease in affected colonies, but prevents its spreading to others. This cannot be done by the annihilation of those diseased, for reasons given already, but by a proper treatment of *all* the colonies, whether affected or not.

Certainty of success can only be expected of such as have made this a special study. Nevertheless, as far as I am concerned, I know that if a colony is not too much reduced in numbers, success in curing the disease is not only possible, but certain, without sacrificing too much of the apiary.

ALBERT KOHNKE.

Dowagiac, Mich., Sept., 1880.

After some further discussion, the meeting adjourned.

B. SALISBURY, *Sec.*

☞ We are prepared to supply all new subscribers with the numbers from January when it is so desired.

North-Western Bee-Keepers' Society.

Pursuant to a call in the AMERICAN BEE JOURNAL, the bee-keepers of the Northwestern States met in convention at Parker Hall, Chicago, on Tuesday morning, Sept. 14, at 10 o'clock, Mr. A. Rice, Byron, Ill., in the chair.

At the request of the chairman, Thos. G. Newman, of Chicago, stated the object of the meeting to be to consider the advisability of permanently organizing a general society of bee-keepers of the Northwestern States, and to hold annual conventions in Chicago each fall.

After favorable remarks from several, Messrs. Thomas G. Newman, Chicago, T. S. Bull, Valparaiso, Ind., I. R. Good, Napanee, Ind., A. J. Hatfield, South Bend, Ind., and H. W. Funk, Bloomington, Ill., were appointed a committee on permanent organization.

On motion, the membership fee was fixed at 75 cents.

The following paper was read on the

Foreign Demand for Honey, etc.

I intended to have been with you, but uncontrollable circumstances prevent. I am sorry, for I feel new enthusiasm in our pursuit, as a producer of honey; the more so, because of the new foreign outlet for our product. This demand, though not high-priced, is of sufficient magnitude to save us in times of large productions at home.

A bee-keeper now in my employ, who has been a producer in Germany, and traveled extensively throughout the Old World, assures me that the foreign demand will take care of all the honey we can produce for many years to come, and that, too, at paying prices; that the Old World does not compare with our country as a source for our product, and that honey sells at much higher figures there than here. These facts encourage us to put our capital and energy into the business.

I hope your association will not fail to thoroughly discuss the subject of over-stocking the field, and the necessity of each producer enjoying a field or range exclusively to himself. I consider this a vital element of success. None can succeed in a divided field, as special producers. While "competition is the life of trade," opposition is the death of bee-keepers. Opposition in the field is not only bad for those so opposed, but for the consumers of our product as well. The easier we can produce honey, the cheaper can we afford to sell it.

Let us have harmonious and united action in the direction to oppose and counteract all movements to "bear" the honey markets. In my best judgment, these issues are of fully as much importance as the discussion of the best methods to be employed in accumulating a crop.

I shall look forward with impatience for a report of your meeting.

JAMES HEDDON.

Dowagiac, Mich., Sept. 13, 1880.

T. G. Newman rejoiced with the writer in this foreign outlet for our overproduction. He had long foreseen it, and had labored assiduously in England and on the continent to remove prejudices, and establish a confidence in and demand for American honey, and he could but congratulate Mr. Heddon on the removal of his former fears regarding the over-production of honey. He thought, too, Mr. Heddon's views in regard to over-stocking would in a great measure be modified in the future.

Dr. C. C. Miller, Marengo, Ill., wanted an expression of the Convention in regard to what might be considered overstocking a locality. Owing to the absence of honey in white clover he had not only gained no increase, but had doubled-up his colonies to a great extent. As fall approached he moved part of his apiary a distance of 2½ miles; about this time a field of buckwheat came into bloom near them, and they had nearly filled their brood chambers.

George Thompson, Geneva, Ill., said the question of over-stocking depended altogether upon the honey bloom.

H. W. Funk inquired how many bees could be kept in one locality, supposing there was 80 acres of white clover to each square mile of territory?

Dr. C. C. Miller thought that white clover alone would yield but little profit to the bee-keeper, as the time for honey-gathering was so limited, it would be mostly consumed by the bees during the remainder of the year.

G. W. Naftzger, South Haven, Mich., suggested that during basswood bloom, in his locality, over-stocking would be an impossibility.

A. Rice said honey gathering depended on the condition of the bees. Some strong colonies would have 50 lbs. surplus, while weaker ones would get nothing.

C. B. Fisk Bangs, South Haven, Mich., suggested that bees and humanity were similar: some colones would do well, others done but poorly.

T. S. Bull was of opinion all depended on the honey secretion.

Dr. C. C. Miller had observed this season, when white clover was in fresh bloom the bees did not work on it, but as the blossom became older, apparently going to seed, they did so.

I. R. Good thought a good locality

could not be over-stocked; for the nectar flow was continuous, and the secretion constantly going on.

G. W. Naftzger was of the same opinion.

C. B. Fisk Bangs has found that full colonies would not gather honey where there was no honey to be obtained. He believes in planting a variety. It is possible for the bee-keeper to keep his bees busy and prosperous the whole season, by a judicious system of planting to supply the deficiencies in the spontaneous bloom.

At this time, G. M. Doolittle, Borodino, N. Y., was introduced to the Convention by T. G. Newman. In response to inquiries regarding the comparative merits of white clover and basswood as honey producers, he said the bees commenced work on the former in the morning about 10 o'clock, but they worked on basswood from daylight till late at night. It is necessary to keep hives full of brood, to secure a large yield of sur plus honey.

Convention adjourned till 1:30 p. m.

Afternoon Session.

In the absence of the chairman *pro tem.*, Dr. C. C. Miller was called to the chair.

T. G. Newman read a communication, entitled

Introduction of Queens to Strange Colonies.

Brethren: My fondly anticipated hope of meeting with you in the District Convention is blighted by unforeseen circumstances.

In this world of casualties, our aims often fall, blighted to the ground; so with the practical part of this subject, fondest hopes are often lost, and melancholy fills the mind. But on the arrival of the next BEE JOURNAL, some perfectionist gives a never-failing rule, and cheers the heart until practice demonstrates that the theory will not hold good under all circumstances.

Three things should be observed in the introduction of queens to strange colonies of bees:

1. The instinct of the bee.
2. The season of the year when the work is to be done.
3. The age of the bees who are to receive the queen.

The strongest instinct of the bee is, aside from the love for storing honey, to replace the loss of a queen from resources in their own hive. This is in keeping with the first law of nature—self-protection—and all outside intrusion is discarded. To protect the life of the queen to be introduced, as a rule, she must be placed in some kind of a cage until the natural instinct of the bee to supply a lack from resources on hand dies away, which is sometimes sooner and sometimes later; but as a rule, with the capping over of the royal cells, when they seem to anticipate a queen to supply the place of the one lost. She may generally be released then with safety.

The time in the year when the work is to be performed has much to do with success. Late in the fall and early in the spring, after the vital forces of the bees seem lulled to quietude, by age and inactivity, the work of the hive being suspended, and not quickened into life by the unfolding flowers and sweet nectar of an anticipated summer, queens do not have to be caged long, as a rule, and sometimes may be released at once.

The age of the bees receiving a queen makes a difference in the manner of her reception. A colony long deprived of its queen, will receive one soon or reject her entirely. In the latter case they will generally accept a virgin queen that has just emerged from the cell.

Virgin queens may sometimes be given to a colony of bees with success, where a very old, superannuated queen is the incumbent. They receive her and let the old queen live, on the same principle that bees will build royal cells and supply the hive with a new queen while the mother queen is still alive, and sometimes lives for months doing duty with her daughter.

No plan has yet been devised, to my knowledge, for the safe introduction of virgin queens to strange bees, except the one so natural, simple and easy: wait until the bees are looking for the young queens to make their appearance. Queen cells should be built in time, so that the queens to be introduced are in advance, and all will be right; give them to the colonies and afterwards destroy all royal cells. If the young queen makes her appearance before the one you wish to introduce, change the queens, and as a rule she will be accepted, unless the one removed has been fertilized. A. SALISBURY.

Camargo, Ill., Sept. 13, 1880.

After considerable discussion on the subject of introducing queens, without eliciting any new methods or arriving at anything absolutely certain, the question of comb foundation and its uses was taken up for discussion.

1. R. Good said he had experienced considerable trouble in using Novice foundation; it sagged very badly, broke down and warped. Last spring he purchased a Given press, and now has several hundred beautiful, straight worker combs, in wired frames, in use. It was all that had been claimed for it, and he

did not think there was any better now in use.

G. M. Doolittle's experience with foundation was unsatisfactory. He had tried several kinds, and the Dunham was perhaps the best; in the earlier portion of the season it sagged badly, but later in the summer it did not sag at all; has had colonies fill hives full of comb when they were gathering no honey. As to wired foundation, he did not think there was any manufactured he would be willing to use; has seen it built out, and the cells over the wires would have the bottoms covered with the remains of larvæ which had hatched and died, and again the queen would deposit eggs only to hatch and die. In fact, he was not convinced it was economy to use foundation to any great extent, as it was paying out money for that which the bees would themselves supply when it was needed.

Dr. C. C. Miller had used considerable foundation; had tried thin foundation in surplus boxes, and been pleased with it; he did not observe any "fish-bone," and had never heard any complaints.

A. Rice said that he would never use foundation in the sections; he had seen old, filthy combs melted into wax, and that wax was manufactured into foundation; he would not eat it, and would not put upon the market, for others to consume, that which he could not himself eat.

T. G. Newman vigorously protested against the use of comb foundation in the surplus boxes; for use in its proper place (the brood chamber) he thought it a great invention.

Mr. Doolittle said he had used foundation in the sections, but prefers starters of natural comb. The bees will build natural comb during a good honey flow, and fill and cap it, as soon as they will build out and fill foundation.

An inquiry was made, whether anything could be gained by feeding extracted honey back to the bees, to be stored in the boxes?

Dr. C. C. Miller has tried it, but cannot express an opinion.

H. D. Burrell, Bangor, Mich., thought it had paid him.

George Thompson, Geneva, Ill., has accomplished it, but thought it did not pay. He poured the honey in the bottom of the hive.

T. S. Bull had fed back till he became tired; he thought there was nothing gained by it.

It was suggested that in feeding back for the purpose of storing in the sections, the brood frames should be filled with sealed brood or be free from larvæ.

A. Rice said the feeding should be done while they were storing above, and not when they were carrying down for winter.

G. M. Doolittle said it could not be done profitably. He had fed 400 lbs. to get less than 75 in the sections; his neighbor, Mr. Betsinger, had fed 80 lbs. and received back 15 lbs.

H. W. Funk inquired what became of the honey fed back, if not stored?

G. M. Doolittle said his bees would hang around the feed pans and live out of them, but done no work.

Dr. C. C. Miller asked what could be done with partly filled sections, at the close of the season?

G. M. Doolittle said the most profitable use he could put them to, was to give them to colonies that were short of winter stores.

An inquiry was made whether tin separators were necessary to insure straight combs in sections, and if they were not a detriment to the bees?

Mrs. F. Dunham suggested 3 narrow tin strips instead of a single broad one.

Dr. C. C. Miller thought broad tin separators a detriment; he had used wires stretched back and forth, but they were troublesome, and were unsatisfactory in their results; perforated tin might answer better, provided the holes were not too large—say, ¼ of an inch.

The Committee on Permanent Organization reported the following Constitution, which was unanimously adopted:

Constitution.

ART. I.—This Association shall be known as the Northwestern Bee-Keepers' Society.

ART. II.—The object of this Association is the promotion of scientific bee-culture, by forming a strong bond of union among bee-keepers.

ART. III.—The officers shall consist of a President, Vice President, Secretary and Treasurer, whose duties shall be those usually assigned to such officers, and their term of office shall be one year, or until their successors shall be elected.

ART. IV.—By signing the Constitution and paying to the Secretary the sum of 75 cents, annually, any person may become a member of this Society.

ART. V.—The regular meetings of this Society shall be held at Chicago, annually, while the Exposition is open.

ART. VI.—Special meetings may be called by the President and Secretary, who shall constitute an Executive Committee.

ART. VII.—The officers of the Society shall be elected by ballot, and shall constitute a committee to select subjects for discussion and appoint members to deliver addresses and read essays, and

the same shall be published with the call for the next annual meeting.

ART. VIII.—This Constitution may be amended by a two-thirds vote at any regular meeting.

Mrs. Frances Dunham, Depere, Wis., was unanimously elected an honorary member, in recognition of her valuable invention.

On motion, the Society proceeded to ballot for officers for the ensuing year, with the following result:

President—Dr. C. C. Miller, Marengo, Illinois.

Vice President—Mrs. F. Dunham, Depere, Wis.

Secretary—C. C. Coffinberry, Chicago, Illinois.

Treasurer—Thomas G. Newman, Chicago, Ill.

The President suggested that questions be propounded for discussion, and to give opportunity for comparing practice, with the reasons therefor.

Mrs. F. Dunham inquired if queens were not more liable to be superseded from having their wings clipped? She had lost several in this way, and attributed it to the clipping of their wings.

H. D. Burrell had practiced clipping the queens' wings, and could not see that it made any difference; he should continue the practice, to save his valuable queens and the bees.

G. M. Doolittle would as soon think of returning to black bees and box hives, as to abandon the practice of clipping the wings of the queens.

H. W. Funk would clip their wings to save the queens as well as the bees in cases of swarming.

George Thompson assigned a similar reason; he can always find a clipped queen in the grass, from the presence of bees in her vicinity.

T. S. Bull would not clip any more, because he had lost several queens in swarming time, and the bees always became demoralized.

A vote being taken, the practice of clipping was largely sustained.

T. G. Newman stated that he had perfected arrangements, whereby he could procure tickets for those desiring to attend the North American Bee-Keepers' Convention, in Cincinnati, from Chicago and return, at $12, instead of $18, the regular fare for the round trip.

Adjourned till 7:30 p. m.

Evening Session.

A. J. Hatfield inquired whether it was desirable to shade the hives, and to what extent?

After considerable discussion, the opinion prevailed that a complete shade was undesirable; but that during the extreme heat of the day a shade was quite beneficial.

M. A. Newman, Collins, Ill., inquired as to the value of red clover as a honey plant.

G. M. Doolittle said one season his bees secured about 500 lbs. of fine comb honey from red clover; he thinks if it could all be reached by the bees, the red clover would prove to be the richest honey plant we have. There are two kinds of red clover; his bees work on the large red clover better than the smaller variety.

T. S. Bull remarked that his bees worked very briskly on red clover last spring; he saw no difference between the black and the Italian bees in regard to gathering honey from it.

G. M. Doolittle's Italian bees sometimes stored surplus from red clover, while the blacks were consuming their surplus stores.

President Miller suggested that perhaps by pasturing red clover closely a species of clover might be produced, with shorter corollas, from which bees could obtain all the nectar.

A. J. Hatfield inquired as to the best manner of arranging surplus boxes. He found that the bees do not fill out the boxes so nicely when placed below as those above.

President Miller has had the same experience.

G. M. Doolittle said he never allows the boxes to remain below till finished; they build out the comb faster below. He starts the bees in the surplus boxes at the sides, then carries them above to replace the boxes filled and removed, and puts in empty boxes below again.

President Miller inquired, "What shall we plant for bee pasturage?"

C. C. Coffinberry was convinced, after several years of close observation, that melilot clover and large mignonette would well repay cultivation for honey; they were early bloomers, and among the last to succumb to the winter frosts; every bee-keeper should have the waste places, within reach of his bees, well seeded with them, to bridge over the bloomless period between spring and fall flowers; in fact he was not certain that they would not prove equal to white clover when the latter was in its prime. Catnip and motherwort would also well repay any expense and trouble which might be expended upon them.

Several persons heartily endorsed all these plants as good honey producers, and especially melilot or sweet clover.

G. M. Doolittle could heartily recommend motherwort as a honey plant.

Convention adjourned till 9 a. m.

Wednesday, Sept. 15--Morning Session.

Convention was called to order by President Miller.

A. Rice inquired if, in introducing a queen she escapes from the hive or cage, will she return to the same?

George Thompson thought she would always mark and return to the spot from which she escaped.

A. Rice introduced about 70 queens the past season. One escaped while he was placing her on a comb. Afterward, on opening the hive, he found the queen had returned, entered the hive, and was industriously depositing eggs.

C. C. Coffinberry had introduced several hundred queens, and they had frequently escaped, but invariably returned to the starting point. He thought it safe to say queens would always return to the point from which they escape, unless overtaken by disaster. It is very desirable that the surroundings remain unchanged until her return, and especially the person handling her, as he is frequently the most prominent object she notices in her rapid survey.

H. D. Burrell inquired if fertilization in confinement, on Prof. Hasbrouck's plan, had proved a succcess?

T. G. Newman, in response to this query, read the following from the Rev. M. Mahin, D. D., as pertinent to the subject:

Fertilization in Confinement.

A year or two ago the above topic was somewhat prominent in the publications in the interest of bee-keeping. I presume that the silence of the present time arises from the fact that the writers have nothing favorable to report.

When the matter was first brought to the notice of the public, I was among the doubters; but within a year or two I became a convert to the doctrine that queens might be impregnated certainly, safely and economically, on a plan similar to that reported by Prof. Hasbrouck. I confidently expected—well, somewhat confidently—that I would be able during the present summer to rear queens from some of my very fine Italian colonies, and to have them mated with selected drones from others, and that I would have a lot of bees a little ahead of any in the country. But, alas for human expectations! my queens and drones would have their own way, or they would have no way at all.

I made a box 10x10x12 inches. In the center of the tight-fitting cover I made a hole 3 inches in diameter, and covered it by a glass on the under side extending beyond the edge of the hole all around. When my young queens were 3 or 4 days old I caught and caged them, leaving them among the bees until the sixth day. Then, a little after noon I put the cage and queen into my feriilizing box, and opened the cage so that the queen could come out at her leisure; then caught a drone and put him in. It was easy to get the queen and the drone to fly at the same time, and to fly in close proximity to each other; they would even jostle against each other. But for any practical purpose, one might just as well have been in Greenland and the other at Cape Horn. One sole purpose seemed to possess them, and that was to get out of there. Day after day I experimented with one drone at a time, and with half a dozen, but always with the same result. I lost several young queens in the course of my experiments, and did not get one fertilized on the improved plan. In one case I made a cage the size of a frame, only shorter, and closed up the spaces between the frames so that the bees could not get up into the cap or upper story. I opened the cage about noon so that the queen could go above, and put in a few fine drones, covering the upper story with a board having a window in it. In a little while the queen came out, and she and the drones flew nicely, but they utterly ignored the purpose for which they were put there. The conditions were the most favorable that I can conceive, and yet every effort was a flat failure, and my opinion is that those who think they have had queens fertilized in confinement have drawn upon their imaginations for facts. My bees will not mate in confinement, and they seem to be just like other bees.

I very deeply regret the failure; I intended, if I could have succeeded, to settle beyond dispute, one way or the other, the question whether the drone a queen mates with has any influence upon her drone progeny.

Huntington, Ind., Aug. 25, 1880.

T. G. Newman said the advantage of having queens fertilized by selected drones, from choice colonies, was so great that he had especially desired that a successful and easy plan to accomplish this might be discovered, but at no time has his faith in it been "greater than a grain of mustard seed." Many plans have been tried, but without success, by prominent apiarists all over the country, as well as at the BEE JOURNAL apiary; and much as he desires to have it successfully accomplished, he fears it is a sad failure. If it could be done, it would be one of the greatest achievements in modern bee-culture, and the apiarist could breed races of bees that would answer every requirement and gratify any fancy.

A. Rice stated that a neighboring bee-keeper had a wingless queen which became fertilized in some manner, but in what way he did not know.

Several questions relating to wintering being propounded by different persons, the President submitted a test vote, in order to get an expression of preference between the cellar and out-of-doors. The vote was about equally divided.

E. J. Oatman, Dundee, Ill., being called up, said they had tried several plans. Their first experience was under the rules as laid down by N. C. Mitchell in his circulars; they had labored under the impression that a warm, close, quiet and absolutely dark cellar, were necessary essentials in successful wintering; but they had found that with healthy bees light was essential to safe wintering. They had tried feeding in the cellar in February, and lost nearly all their bees. Of late years they have tried several styles of wintering, both in cellar and out; last winter they packed mostly on the summer stands; those packed warmly and fed in February, bred up too soon, and spring dwindling largely prevailed; but those not fed done nicely, and had the season been propitious, would have given a large serplus. This winter their bees will all be packed out of doors, in tenement packing-boxes. These tenements are so constructed as to hold 4 hives each, 2 facing one way and 2 at their rear facing the other, with straw or chaff packing in and around them. This season the white clover and other honey plants have failed in their secretion, and he could not report one pound of surplus honey.

C. W. Naftzger inquired if they had stimulated moderately, Mr. Oatman did not think they would have done much better.

Mr. Oatman replied he did not; they have abandoned spring feeding entirely, and he thought they had lost more bees from that cause than in any other way,

A. J. Hatfield tried both plans of wintering; part in the cellar, and part out-doors packed around with hay. Those put in the cellar came out strongest in the spring, but dwindled away very bad in the earlier part of the season, while those packed on the summer stands built up rapidly, and have given much more surplus honey.

T. S. Minier, Oak Park, Ill., practiced out-door wintering, and had lost only 2 out of 44 colonies; he had observed that those colonies put away without pollen in the brood frames did not build up so rapidly in spring as those with a plentiful supply.

I. R. Good wintered 67 colonies out-doors in chaff-packed hives, and had lost none; he should continue to winter in the same manner, and did not anticipate any loss this winter among more than 100 colonies.

T. S. Bull had always been successful in cellar wintering.

A. Rice recommended the following as the cheapest, most successful and easiest constructed winter protection: Select a wall or plank fence that will give the hives a southern or southeastern exposure, then place the hives about one foot distant; pack behind and over with hay or straw, letting the packing come down well in front to completely shade the entrance, so the bees will not be enticed out to destruction by the sunshine in winter; when all are neatly and snugly packed away, cover over with a shed roof, with the ends of the boards projecting beyond the fronts of the hives, to prevent the snow and rain from beating in.

C. B. Fisk Bangs said Mr. Rice had exactly described his method of wintering. He had lost only when wintering in the cellar.

George Thompson wintered successfully in the cellar, and had no desire to change.

President Miller impressed upon all, whether wintering in celler or packed in chaff, the necessity of good ventilation and plenty of fresh air.

On motion, T. G. Newman was appointed a committee to collect statistics of number of colonies represented, surplus honey produced, amount of increase, manner of wintering and per cent. of loss.

H. W. Funk inquired, "How do we know that it takes from 15 to 20 lbs. of honey to build 1 lb. of comb?" Considerable discussion was indulged in without eliciting anything definite.

E. J. Oatman said he had experimented by feeding sugar, and ascertained he could have combs built out and filled with brood at a cost of 12½ cents each.

A. J. Hatfield asked if straight combs could be obtained in surplus boxes without the use of separators?

H. D. Burrell could not get straight combs without using separators. He did not think tin separators any impediment to the bees.

C. W. Naftzger has had no difficulty in obtaining straight combs without the use of separators; he regards them as wholly unnecessary in producing honey for the market.

Considerable discussion was indulged in, and opinion was divided about equally in regard to their use.

President Miller inquired if bees could be moved short distances successfully, in flying time, by putting a board in front of the hive?

The question was answered affirmatively by many.

T. G. Newman introduced Signor Mihl, a Spanish gentleman, to the Convention, who proceeded to give a graphic description of bee-keeping in the Old World. In Spain but little progress has been made in scientific bee-culture; the most primitive hives are still in vogue, and native black bees, similar to the black bees in this country, are the only ones kept. When surplus comb honey is obtained, it is done by inverting earthen jars, and small wooden boxes similar to those formerly used in this country, over the hives; but a movable frame hive is unknown there, as is also comb foundation, and, in fact, all the implements and improvements in use in this country; the honey obtained there is much darker than ours, but is of good flavor; in the Guadalajara district, where the rosemary grows spontaneously and very abundant, is produced the best honey, which ranks in the Madrid market about as does our honey from white and sweet clovers and linden in the American market; it is not so white, and the general appearance is not nearly so attractive, but the honey is very fine and commands a ready sale. France is more progressive than Spain, and in Bordeaux and other cities there are schools of instruction in bee-keeping. Mr. Mihl had visited but little with the apiarists in this country; he had spent some time with Messrs. L. C. Root & Bro., and was astonished with the quantity and quality of honey they obtained, although they informed him it was not a good honey season. Why, in Guadalajara 75 to 100 lbs. is a large yield of "strained" honey from 1 colony. Mostly all the Spanish honey is strained, the combs being mashed and the honey is pressed or squeezed through cloths.

T. G. Newman, special committee on statistics, made a report. Many of the larger producers were not in at the time of its collation, but the result of those present was as follows:

No. of colonies now	1,734
No. of colonies in the spring	1,338
Increase	396
Comb honey produced, lbs.	10,780
Extracted " " "	35,578
Total honey "	46,358

The crop thus reported was an average of 34⅔ lbs. per colony in the spring. Six persons only reported no surplus for the season.

Those wintered in the cellar, 792; packed in chaff, 603; without protection, 43. The loss in wintering was 7 per cent.

Mr. Messimore inquired if it was known to a certainty that the drone progeny of a pure queen, mismated, will be pure?

No one could give a positive answer from experience.

Adjourned till 1:30 p. m.

Afternoon Session.

H. D. Burrell inquired if cider was detrimental to bees, and will they work around cider-mills to the extent of injuring themselves?

President Miller thought they would.

A. Rice has a bee-keeping neighbor who owns a cider-mill, and who usually is obliged to re-stock his apiary each spring.

George Thompson said there could be no doubt of the injurious effects of cider-mills upon bees located in their vicinity.

T. G. Newman read the following paper, as pertaining to the subject of the "Best Business Bees":

How can we Improve our Bees?

How can we rear the best "business bees?" Only by producing the *best* queens and *best* drones possible, from the *best* colonies we have or can procure. We must take as much pains in rearing queens and drones as the breeders of different kinds of fine stock do in the selection of choice animals to breed from. I confidently expect, in a few years, to see strains of bees far superior to any we now have. The main point is in breeding queens. We cannot get the best queens from larvæ one day or one hour old, for then they will get some worker food. They must have royal food from the time they hatch, so I would give the bees eggs at least 6 hours before they hatch, so that cells will be started and plenty of royal food be put into them when needed.

Eighteen years of observation have shown me that workers reared in the swarming and honey-producing season, are better developed and more perfect than earlier or later, and so it is with queens and drones. We can get the bees to give a limited number of cells that close attention which they usually give 2 or 3 of the first ones, when getting ready to swarm naturally, in a full colony of our best bees, in 2 or 3 months of the swarming and honey-producing season; and neither before nor after that season can we, by any pains that we may take, rear as perfect ones.

We cannot rear best queens in colonies of blacks, but must rear them in

colonies that do their work the most thoroughly—our best ones.

We cannot rear best queens by giving the cells, as soon as sealed, to small nuclei to hatch, that cannot keep up the necessary heat to fully develop them; but must hatch them in full colonies. They should be fertilized in full colonies, as they will fly out sooner than from weak ones, and the sooner they are fertilized, the more prolific they will be.

To get best drones, we must rear them from our best queens, near the center of the brood nest, so that they will have all the care and heat necessary.

Colonies of best bees give robbers the "cold shoulder." Such colonies work here in California in our poorest and dryest seasons, during all the fall, keeping their hives full of brood and honey, and not trying to rob others; while common ones are growing lighter, trying to force themselves into other hives, and many of them starving. Such best colonies will winter in cold climates, almost any way, without spring dwindling; in such colonies the age of the queens will be from 3 to 4 years, instead of the short life which is the rule with common ones. Who will give us the best business bees?

S. S. Butler, M. D.

Los Gatos, Cal., Aug. 25, 1880.

E. J. Oatman was of opinion that queens would fertilize as soon from nuclei as from full colonies.

President Miller and others held the same opinion.

E. J. Oatman had purchased 2 Palestine queens; 1 died; the survivor is very prolific; aside from prolificacy, Mr. Oatman could give no opinion of their merits.

I. R. Good has a "holy" queen, which is the most prolific queen he ever saw.

George Thompson has one, with the same characteristic.

I. R. Good said he had reared about 40 queens from his Palestine queen, and all were nearly perfect duplicates of the mother queen.

E. J. Oatman stated his queen did not duplicate.

In response to a question as to which is best for the amateur—artificial or natural swarming—the Convention by vote recommended artificial swarming.

A test question being submitted, the Convention unanimously disapproved of wired foundation sheets; a vote being then called for upon the desirability of foundation wired in frames, it was decided in the negative.

President Miller inquired the best method for finding queens in full colonies; he had frequently experienced trouble from their rapidly passing from one comb to another.

Several speakers recommended commencing the search on a center comb.

The following communication was received and read:

To the Bee-Keepers of the Northwest, in District Convention assembled, the Michigan Bee-Keepers' Association sends greeting:

May your salutations be honeyed, your deliberations candied, and waxing warm in debate may your foundation not sag, but support firmly and spread freely the bee-bread of fraternal sympathy and brotherly love.

T. F. Bingham, *Sec'y.*

On motion, the Convention adjourned subject to the call of the Executive Committee. C. C. Miller, *Pres.*

C. C. Coffinberry, *Sec.*

LaCrosse Bee-Keepers' Convention.

The Northwestern (Wis.) Bee-Keepers' Convention was held at LaCrosse, Wis., Tuesday, Sept. 14, 1880.

The meeting was called to order by the President, John A. Zalser, at 10 a.m. After reading and approving the minutes, a constitution and by-laws were adopted, and the following officers elected for the ensuing year:

President—James Manchester.
Vice President—E. Markel.
Secretary—L. H. Pammel, Jr.
Treasurer—John A. Zalser.

B. F. Bryant of LaCrosse, then delivered the following

Opening Address:

The honey bee has been the companion and servant of man from the very earliest times, accompanying his wanderings and ministering to his comfort and enjoyment. Scarcely tamer now than in its wildest state, it bears the yoke of servitude more lightly than any other creature, and is beholding to man for hardly any thing but shelter. Obedient only to its instincts and habits, no servant was ever more faithful and trusty. Incapable of instruction it is in some respects the most intelligent of the beast or insect creation. Capable of being the subject of ownership, and of a bargain and sale, its master could hardly be made responsible for its acts.

The honey bee is a great trespasser, and has no respect for fences and boundary lines. It gathers its food wherever it pleases and enriches its owner out of other peoples' property

without impoverishing or diminishing the property of any one.

A wonderful mathematician and architect is this little insect. If it accepts shelter from man, it yet builds with method and exactness its own house and store-house, and furnishes its own materials. Almost all of its actions, apparently, are governed by unvarying rules, and in its travels, whenever it chooses to, it pursues its ways along a straighter path than birds or other insect ever took. The carrier pigeon makes a wonderful flight through the air, finding its way back to its home, from distances very remote, and over unfamiliar route. No bee, or insect, or other bird can accomplish such a feat, and yet the path of the carrier pigeon is not straighter than other birds can take, but who ever heard of a bird-line, or a bug-line. It is only the "bee-line" which has come to be in common speech the synonym of unvarying directions.

We are greatly beholding to the animated, irrational creation. Food and clothing it furnishes us, comforts and luxuries also; ivory and pearls, and beautiful firs and feathers. The fish, the beast, the bird and the insect minister to our wants and gratify our tastes. But all these, except the productions of the honey bee require skill and labor to make them serviceable. The honey comes prepared for instant use. It has been distilled by a more delicate and perfect process than any labratory has ever provided. It has been stored in a permanent and economical way, and the case in which it is enclosed has a value beyond its primary use.

Full of wonder as well as of use are this little insect and its productions. It is not strange that the wise and learned have patiently studied its habits and its organization, and that a literature, full of curious and valuable information, has grown out of their researches, now that poets and moralists have wrought into their fancies and sentiments the images and lessons drawn from its habits.

Any thing which may increase our knowledge of the honey bee and its ways and methods of work and employment, or aid in increasing the amount and quality of its productions has real and permanent value. And an association which brings the bee-keepers of a community together, and diffuses useful knowledge with respect to their calling, deserves to be promoted.

The members reported for 1880 less than an average honey yield. The report from 17 bee-keepers is as follows: In the spring, 283 colonies; now, 547—increase, 264. Honey obtained, 8,500 lbs.—5,800 lbs. of comb honey, and 2,700 lbs. of extracted. The discussion of honey report occupied the remainder of the forenoon.

Afternoon Session.

An essay was read on Wintering Bees, by E. A. Morgan, of Arcadia, Wis.

[Owing to want of room we must omit its publication this month, but will give it hereafter.—Ed.]

Nelson Perkins, Houston, Minn., wintered on the summer stands, but thought upward ventilation was necessary to winter successfully.

L. H. Pammel, LaCrosse, Wis., said upward ventilation was unnecessary; he had wintered very successfully without it for 3 or 4 seasons.

J. Pelty, LaCrosse, Wis., wintered in a bee house; always had upward ventilation, and lost very heavily through it.

Mr. Palleys, Melrose, Wis., always wintered in a dry cellar, and never lost any bees, either through spring dwindling or dysentery.

E. Markel, LaCrosse, Wis., always wintered in a dry cellar; as nine-tenths of the bee-keepers winter in cellars, it must certainly be the best and cheapest way; as regards carrying the bees in and out of the cellar, he thought it must be cheaper than to pack them in chaff.

Louis Peters, Melrose, would winter in a dry cellar, and let his bees have an occasional flight on a very nice day.

Mr. Sprain, Barre Mills—Would it make any difference whether bees were wintered in a bed-chamber or bee-wintering house?

Mr. Whipple said it would not make any difference, if the chamber was dark.

Mr. Whipple, Shelby, Wis., would winter his bees in a bee-house with double walls, with a 2½ inch space filled with sawdust; then leave the door open at night so that the dead air can escape.

Mr. Zoules, LaCrosse, wintered in a bee-house; used a double-walled bee house, with a dead-air chamber, and always kept his bee house dark.

Simon Klich, LaCrosse, would have such a bee hive that he could winter on the summer stand.

J. C. Kraemer, LaCrescent, Minn., turned his bee hives from south to north, and left them on the summer stands.

Rev. O. Clute, Iowa City, Iowa, gave his consent for the Secretary to read his Chicago essay on "Increasing the Demand for Honey."

L. H. Pammel stated that we must do something to make honey a staple article, so that the poor man can enjoy its luxuries as well as the rich; for such a demand he thought extracted put up in

tin pails would be the best, and that every bee-keeper should warrant his honey as to purity. For comb honey, 1 and 2 lb. sections are the most attractive, as the rich will pay ½ for its beautiful appearance, and the other half to sweeten the palate; he also said Mr. Clute suggested something very wise when he said that the grocer should keep the honey in some conspicuous place.

The secretary then read his essay on the "Bee Forage of Western Wisconsin." [This article is also omitted for want of space; it will be published hereafter.—ED.]

Mr. Palleys said the Secretary made a mistake in saying that the hard maple was not very abundant in Western Wisconsin; some distance from the Mississippi, in the interlor, the woods are heavily timbered with it; had tested the spider plant the past season, and found it to be an excellent honey plant.

Mr. Markel thought apiarists would have to plant for honey in the future, to make bee-keeping more reliable; he said it would be unnecessary where golden-rods and asters grow abundantly; but in his location he found it necessary.

Nelson Perkins found bees working very vigorously on hemp some years, when it blooms after Sept. 1st.

Wm. Lossing, Hokah, Minn., wanted to know on what soil swoet clover grows.

Mr. Perkins replied it does well on all soils.

Mr. Pelty found bees working on box elder.

Question.—What foundation to use?

E. Markel said this was a question of great interest to bee-keepers; he had used the VanDeusen, and the bees would not work on it, while they would on the Dunham.

N. Perkins asked Mr. Markel whether he would condemn all foundation, from the fact that they would not work on the Van Deusen. He replied, no.

Mr. Polley said the bees accepted the Root and Dunham very readily.

L. H. Pammel found Dunham thin the best; had tried the Dunham thick but did not answer for all purposes as well as the thin. The Van Deusen his bees will not work, as they gnaw all the cells off and notning remains but the thin shell of wax.

Mr. Zoules asked if there was any sagging in using foundation.

Mr. Markel said there was not with the Dunham.

Mr. Lossing stated there was no sagging when the thick foundation was used.

At 5 p. m. the meeting adjourned till 7:30 in the evening.

Question.—Does it pay to use an extractor in the apiary?

Mr. Perkins said it was one of the best things to secure strong and vigorous colonies and a large amount of surplus honey.

Mr. Markel thought it would be profitable to use the extractor, but there is so much adulteration in honey, it would be difficult to dispose of it.

Mr. Pammel said he has used the extractor with profit and in the future would run more for extracted honey. The producer would not adulterate it but he should be responsible for what he sells.

Mr. Palley thought every one should put it up in jars and label it.

Mr. Manchester asked Mr. Pammel if he could find a home market for his extracted honey. The Secretary said he found no trouble in doing so.

Mr. Perkins said he had created a home market for all the extracted honey he produced and that three times as much honey was used where he lived at the present time than nine years ago.

The following was then unanimously passed: *Resolved*, that we hereby tender our thanks to the citizens of LaCrosse for the use of their hall and the interest they manifested in the progress of this society; and to the press for their kind and appreciative notices.

The meeting then adjourned.

The following articles were on exhibition: by E. Markel, comb honey; by John A. Salzer, several kinds of extracted honey, an Everett honey extractor, and other implements for the apiary; by L. H. Pammel, the Gem double-walled hive and extracted honey; by S. Klich, a swarm-catcher: by W. Lossing, comb honey in sections.

J. MANCHESTER, *President.*
L. H. PAMMEL, JR., *Secretary.*

Southern Cal. District Convention.

At the suggestion of many apiarists, who think that a convention of those engaged in honey-producing should be held this fall, and believing that such a general meeting would materially advance the interests of this branch of industry in Southern California, I name the 20th and 21st days of October, 1880, at Los Angeles, California, as the time and place for holding such convention, that being during the session of the Horticultural and Agricultural Fairs. A cordial invitation is extended to all apiarists in the State, and to all who feel an interest in the science of apiculture.

C. J. FOX,
Pres. Dist. B. K. Association.

Letter Drawer.

Bee Pasturage.—When I last wrote you I expected some honey from fall flowers, but am disappointed; out of 31 colonies I will not get 1 pound of surplus. The season has been very unfavorable; I had but 2 swarms, both late; 1 is doing well, the other is in a starving condition, and I fear will not winter over. I think all but the one named will have sufficient for winter stores. I find we *must* make pasturage; we cannot depend on nature's voluntary contributions. In the early days of this section the honey product was enormous, but settlement and cultivation have destroyed the greater part of the natural bloom. I contemplate planting melilot clover, large mignonette, borage and motherwort. F. A. GROVE.

Kirksville, Mo., Sept. 10, 1880.

Asilus Flies.—I send you to-day, by mail, a package containing 3 bee-killers. There are plenty around my hives and must destroy a great many bees. Please give name through the AMERICAN BEE JOURNAL. Two of the specimens are bruised some; but perhaps, the perfect one will be sufficient for name.

R. VAN DUSEN.

Palmyra, N. Y., Aug. 23, 1880.

[These insects are Asilus flies, but not *A. Missouriensis.* They are too much injured to be easily determined as the hair is all rubbed off. They are smaller than *A. Missouriensis.* I should be very glad to get some more in good condition.—A. J. COOK.]

Egg-bound Queens, &c.—I have at present an observatory hive with Italian bees, also extracted and comb honey on exhibition at the Mechanics' Fair, at San Francisco, which closes on the 11th inst. The hive has drawn a good share of attention; they have been there for 3 weeks in the building; I took them out every few days for a fly and they are very healthy. They have come 45 miles on boat, wagon and rail, and only one partly filled section got loose, and no bees were killed. The hive shows both upper and lower arrangement, bees, drones, &c. Seeing in the July and August numbers of the AMERICAN BEE JOURNAL, regarding queens being egg-bound, convinces me that I had a case. I noticed a very fine Italian queen with what I then supposed were the parts of the drone attached to the queen. I watched for eggs, to time her laying. That queen still had the same appearance at the tip of the abdomen, even after 30 days had passed, until finally she disappeared and the colony got much reduced. She was in a 3 frame nucleus. Had I known in time, I might have saved her. She was a fine looking queen and came from good stock. I am sorry now that I did not examine her more closely at the time, but expecting that all would be right, I did not trouble her. I would like to get all the particulars about fertilizing in confinement. Several subscribers to the AMERICAN BEE JOURNAL are very much interested in this subject.

Napa, Cal., Sept. 10. J. D. ENAS.

[See article on Fertilization in Confinement on page 465 of this number of JOURNAL.—ED.]

No Sagging in Foundation.—Hearing so much said about the sagging of comb foundation, I have come to the conclusion that it is the fault of the one that uses it. I have used 30 lbs. this season and not one sheet has sagged. My way of fastening it, is to cut sheets so as to reach ¾ of the way down, then tack thin strips of wood over the foundation to the top-bar. I have never used any but the Dunham foundation, and could not say how other makes would do. Success to the AMERICAN BEE JOURNAL; I could not afford to do without it, and I think one copy is well worth the subscription price for a whole year. J. F. MCCOY.

Van Wert, O., Sept. 16, 1880.

Report of a Beginner.—I have no cellar fit to winter my bees in, and shall winter them on the summer stands by packing with flax straw. I commenced last summer with a swarm I caught on the fence, put them in a common board box; wintered them in a box with opening at entrance of hive backed with straw; last March I bought 5 colonies in movable-frame hives; 1 died soon after I got them home and left 20 lbs. of honey and about a pint of bees; the other 2 gave 2 swarms each. My boxes are 10x14 inches, inside, 9 frames; the 2 first swarms have their lower stories full and are filling 12 boxes on top, of about 3 lbs. to 4 lbs. each; the last swarms have not quite filled their boxes below. I have had 3 boxes filled in June, with Italian bees. I shall not have much surplus honey, this has not been a very good year for bees; too much dry weather. I like the AMERICAN BEE JOURNAL.

THOMAS PARKE.

State Centre, Iowa, Sept. 13, 1880.

Barrels for Honey.—Can I put honey in oak barrels, with waxing, and have them hold? O. C. BLANCHARD.
Ironton, Wis., Sept. 3, 1880.

[Yes, if properly waxed, which is very difficult; at least 75 per cent. of all the oak barrels we ever saw (whether waxed or otherwise) containing honey, leaked. We advise the use of "sugar pine" or spruce; then make small casks, to hold not less than 10 nor more than 20 galls. (100 to 210 lbs). These will cost but little, if any, more than barrels, are much easier to handle, less liable to bruise in transit, and will command a readier sale in market. Few grocers or consumers care to buy a 500 or 600-lb. pkg. of honey at one time, and if the "middle man" has to repack to make a market, there is shrinkage in weight, loss of time and waste of barrel, all of which have to be made good, either by the producer taking a less, or the consumer paying a greater figure, or the "middle man" is a loser, and declines to handle in future without a larger margin.—ED.]

Deserted.—Mr. D. O. Byrne, a neighbor and beginner in bee-culture, having 6 colonies in the "golden" hives, requested me to come over and examine them. I found all doing well; one colony threatening to swarm; upon opening it, I found it heavy with brood, plenty of eggs, honey, and 7 queen cells, from 3 to 5 days old; I destroyed 4, leaving 3 of the best developed, not more than 2 days capped; I straightened some crooked combs, and closed it up to await further development of the cells, when I proposed to put them in nuclei. I considered the colony in good condition, the honey boxes being about half full. In about an hour after the bees came rushing out pell-mell, jumping from the alighting-board upon the ground, sweeping a trail for 2 feet, and arose. Mrs. B. ran out and settled them, thinking it all right, but as soon as settled they arose again and left for parts unknown. Upon examining the hive, every bee that could fly had deserted, leaving it with but a few young bees. Mr. B. filled up the hive again with bees from other colonies, to save the brood and queen cells. We cannot assign any cause, having never seen or heard of a similar occurrence. Give us your opinion of it. We use the golden bee hive here generally, and are well pleased with it. Bees are doing well this year, except that they swarm too much; they have been swarming all this month; this is the second season for this year. W. A. MILLING.
Biard, Texas, Aug. 24, 1880.

[It was a case of natural swarming. The bees were fully prepared to go, and were only awaiting a successor to the old queen, when you facilitated their departure by destroying the cells, thus persuading her that a rival had already commenced her work of destruction. This, too, we judge to be a case where the queen led out the swarm, from the fact of their not taking wing from the alighting-board, but following her on the ground till she gained strength to rise.—ED.]

Goldenrod.—Please name the enclosed flower. I think it must be the much-praised goldenrod. It grows wild, and often covers the landscape for hundreds of acres, and as it grows from 3 to 6 ft. high, it forms, as it were, a golden sea of bloom for several weeks each fall.
DAVID HIGBEE.
Avoca, Iowa, Sept. 3, 1880.

[It is one of the goldenrods.—ED.]

Killed by Glucose.—My bees all died last winter from being fed on glucose, so I am out of the business now and you can stop my BEE JOURNAL. H. M. M.

[The only thing we regret is that the writer of the above was so perverse as to disregard all the warnings given in the BEE JOURNAL about feeding bees such vile trash, and to deliberately murder them in such a disgraceful manner. We would as soon think of feeding our children on sulphuric acid, as to shut up our bees for the winter and give it to them to *die* on. Several similar cases are reported, where bees have been killed by feeding them on glucose.—ED.]

Clubbing Rates.—I have taken the BEE JOURNAL for years, and shall continue if I can get it at the same rate that others can. I know of no one near me who would subscribe for the JOURNAL so that I can get it at club rates, and now my only remedy is to send off to some agency; but this I dislike to do from principle. I think that people who are scattered apart have a right to be able to obtain public journals at the same rates that those can who are in more thickly settled places, where they

club together and save 50 per cent. on the cost. I do not see what publishers can hope to obtain by this method, except to estrange their own subscribers from them. The *Inter-Ocean* abandoned this clubbing nuisance long ago, and now give their paper to all alike at the same price. I respectfully suggest that it is very desirable to have the BEE JOURNAL published at the lowest self-sustaining uniform price. I like the BEE JOURNAL, and the good personal feeling it maintains in its discussions.

O. B. CURTIS.

Ulah, Henry Co., Ill.

[Mr. Curtis' points are well taken, and for several years we have been disgusted with the clubbing business. It is neither right, reasonable or just, and we shall continue it no longer than to the end of this year—then we shall inaugurate a new policy, which will be determined and announced in due time.—ED.]

Bee Killer.—I send you a block of basswood with a hole and plug, enclosing a bug or bee killer. I caught him with a bee on a sunflower. What is it?

J. H. EBY.

North Robinson, O., Sept. 7, 1880.

[It is Phymata erosa, or the stinging bug, which is fully described and illustrated in the 4th and 5th editions of my Manual for the Apiary, pages 293 to 297.—A. J. COOK.]

Freak of a Hybrid Queen.—Last spring I had a colony of fine Italian bees (the queen and workers were beautiful), and I concluded to rear some queens from her; some time in May I introduced her into a colony of black bees; the queenless colony of course went to work and constructed a lot of cells, which I removed in due time all but one, which was very large. I only succeeded in rearing one queen from those cells removed, which was a fine one and quite yellow; but the one hatched in the parent colony was a little, spindling thing, and as black as tar. What is the cause of that difference? The queen that formerly produced such fine 3 banded workers, produces nothing now but hybrids, with scarcely a sign of Italian blood in them. Now, Mr. Editor, please explain. L. Z. LANTZ.

West Liberty, O., Aug. 20, 1880.

[The parent queen was a good Italian, but had been improperly mated, and of course her queen progeny was variegated; since then your attention has been more critically directed to her worker progeny, which you find to be hybrids, and which was undoubtedly the case with the workers in the hive from which she was removed.—ED.]

A Wash for Foundation.—I take pleasure in sending you some root which I use on foundation rollers, also a sheet of foundation made on the 6-inch Olm machine, for you to try in your apiary. To use this root, soak it until you get the root soft, then squeeze the water out of it and use it on the rollers with a brush. If desired you can boil the root, but I think it best soaked. If you like it I can furnish it to bee-keepers. The foundation does not require washing after coming from the rollers. I start the sheet of wax through the rollers, and before it gets clear through, I lap another sheet, thin end first, on the thick end of the first one, and so on as long as I want to, cutting off as it comes through, so I have but one sheet to start from the rollers. Bees are doing tolerably well here. I wintered 47 colonies on their summer stands, and lost none. I have lost but 1 in winter for 5 years.

J. G. BIGLER, JR.

Nephi City, Utah, Aug. 8, 1880.

[It is too late in the season to make a satisfactory trial of the wash, but next summer we will be glad to do so.—ED.]

Fierce Stinging.—I have just looked through all of my hives. They are all in good condition for winter, but only 2 have given me any surplus, and these were stimulated in the spring, and I realized 70 lbs. of comb honey from each of these 2. My experience teaches that it is better to keep 1 colony in good condition than 100 and give them no attention. The hives I use are 1¼ in. thick, poplar lumber, 10x12 in. wide and 18 in. long, for brood-chamber; for surplus or upper story just one-half the size of the brood-chamber. The common stock pea gives good forage for bees; it will grow in most any climate or soil. I had a strange occurance with a colony of my bees this morning. A gentleman and lady wished to look at them and see the honey in the hive. As usual I used the smoker, but the mement the cloth was raised, the bees poured out profusely, stinging the parties present fearfully. I was compelled to abandon the place entirely; it was a strong colony and gathering honey nicely. My bees have always been amiable. Can anyone account for it? J. SMITH HEAD.

Benton, Mo., Sept. 14, 1880.

A Stray Swarm.—There are few bees in this neighborhood; poor season for honey till fall bloom began, but since then it has been plenty. I bought 2 colonies of Italians last spring, and have increased to 5 artificially; lost 1; when the fall bloom began in the latter part of August, the bees all made preparations for swarming, and one swarm was a little too smart for me and left for elsewhere. One of my Italian nuclei which I was building up, has apparently given shelter to a swarm of wild blacks, as there are thousands of pure blacks in the hive; in fact, they completely outnumber the Italians. The queen I reared myself; she is fine-looking and prolific. I have been unable to find any black queen, and am just introducing into the colony an imported Italian queen, so as to have no question as to parentage. Is not my theory of the intrusion of the blacks probably correct; if not, what is the explanation?

FRED. C. BOWDITCH.

Brookline, Mass., Sept. 18, 1880.

[It is an unusual freak, but one which sometimes happens. A similar one occurred lately in the BEE JOURNAL apiary. It was probably an after-swarm, and its queen was killed in the melee upon entering the nucleus.—ED.]

Eggs that would not Hatch.—I send you with this letter the corpse of a queen which I had calculated to send alive, but she died before I was ready to send her. This queen was reared in a neighboring apiary, and never laid an egg that hatched into the larval state during an existence of 3 months. She laid in this time 1,000 eggs, but they dried and shriveled up, and she would lay repeatedly in the same cell. We exchanged her eggs to other hives with the same result. Now, according to the best authorities, these eggs should have hatched whether fertilized or not. If you will send her to Prof. Cook for dissection, I think probably he can find some trouble about the reproductive organs that will account for this remarkable phenomenon. WM. HAUSMANN.

Ashford, Wis., Sept. 2, 1880.

[This is another one of those curious cases mentioned in my Manual of the Apiary, p. 83. Such queens seem in every way perfect, but there seems to be a congenital defect with the ovaries. The eggs continue to grow in these organs, but are imperfect, and so fail to develope. Such cases are found among all higher animals. The special defect of the cells, for each egg is only a cell, has not been determined.—A. J. COOK.]

Fertile Worker, &c.—Bees have not done well here, this season. I lost a number of colonies by spring dwindling; I now have 24 colonies; they have filled their hives, but have very little surplus. The enclosed weed grows here from 3 to 9 feet high; the bees gather a great deal of pollen from it; it is in bloom for two months or more. What is its name? Do fertile workers ever get into a hive where there is a queen? I had a colony that was ¾ drone brood and I thought I would kill the queen and let them rear one. I looked for her and found her; when I was looking I noticed more than one egg in the drone cells but never thought of fertile workers. I removed all of their combs and gave them a frame of larvæ and two frames of honey from another hive; in two or three days I looked for queen-cells, but instead, found eggs, from 1 to 7 in a cell. I then took another hive like theirs and put in a frame of brood and bees, and two more frames of honey and placed in their hive, and carrying them across the yard, put the frames and bees in with another colony, and thought that I should get rid of the egg layer, but did not. When I looked for queen-cells I found eggs the same as before. I then united them with another colony and did not have any hive for them to come back to. J. C. PETERS.

Greenleaf, Minn., Sept. 10, 1880.

[The queen, evidently, had become worthless as a mother and hence the presence of this pest to the apiarist—a fertile worker.—ED.]

One Thing Lacking.—I have just been reading in the BEE JOURNAL, the reports of the crop of honey, &c., from different parts of the country, and thought, while reading, that one point of interest, at least to me, was omitted; and that was the price of honey in the home market of each person reporting. I thought it would be equally interesting to know the different prices all over the country, as to know the other conditions. I have been selling comb honey readily at 20c. I produce extracted honey only for my own use. The crop of surplus honey here is quite light, some of the largest bee-keepers have no surplus at all; while others have very little. I had a fair yield from 18 colonies. White clover was a failure; basswood was good for a few days; we

had a fair fall yield, and most of my bees are supplied for winter; but every thing stopped on the 7th, the weather suddenly turning cold and continuing so, till the 16th, with a little frost on the 13th and 14th; it is warmer now and the bees are out again, but are not getting any honey. P. R. HUNT.

Plattsville, O., Sept. 17, 1880.

Cleome.—What is it? Does it grow any where? Does it blossom the first year? Please explain and oblige a reader of the AMERICAN BEE JOURNAL. JOHN C. WILMS.

Waupun, Wis,, Sept. 14, 1880.

[It is a good honey-producer, blooms the first year, and grows in any good soil. It yields honey only early in the morning or late in the evening.—ED.

Is it Foul-Brood?—My bees have a little dead brood with sealed caps, sunken but not perforated; no bad smell; would this be caused by the honey crop failing suddenly while bees are rearing brood rapidly, or is it a case of foul-brood? My increase from 14 colonies is 35; surplus honey 100 lbs. extracted. A. SUBSCRIBER.

Hamilton, Ont., Sept. 18, 1880.

[Probably if you perforate some of the brood, you will find bad smell enough to convince you that it is a genuine case of foul-brood.—ED.]

Swarm Catchers.—Seeing in your JOURNAL for August, mention made of "swarm catchers," by one of your correspondents, F. W. Spear, Wyocena, Wis., could you give me any particulars of them, through the columns of your JOURNAL next month, if so I should be much obliged? I am only an amateur bee-keeper, but have not heard of any thing of the kind before. I think it would be a great boon to bee-keepers, if any thing can be devised to catch issuing swarms, as it seems impossible to entirely prevent swarming, but how to catch them is a puzzler to me. I am sorry to see such poor accounts of the honey harvest in your country. I think upon the whole ours is a very fair harvest.

E. J. HOLMES.

Cranbrook, Kent, Eng., Sept. 10, '80.

[A description of a swarm catcher may be found on page 487 of this JOURNAL. See also our May number, pages 219 and 250 for description of Bailey's Swarm Catcher.—ED.]

How to Winter Bees.—It has been too cold here for bees to do much this fall. A man here says that too much honey below will become as cold as ice in winter and freeze the bees. Is this so? He says the best way is to take out the frames of honey at the sides, and give them empty frames in the middle. I think the hives are full of comb honey below, but do not know how much.

C. FLETCHER.

Columbia City, Ind., Sept. 12, 1880.

[Leave only as many frames in the hive for winter as the bees can cover, removing the rest and put a division board on either side, and on the outside of these fill in with chaff, hay, leaves or something of the sort, and cover up warmly on the top with a blanket; then place over that chaff, leaves, sawdust or something of that sort to keep them warm and also to absorb the moisture generated during the winter.—ED.]

Curculio.—In the last BEE JOURNAL I noticed an error in the item on the Curculio, p. 414, which please allow me to correct. The Curculio is a small dark snout beetle, or weevil, which when disturbed draws up its legs and falls to the ground, when it looks so like a dried bud that it is not readily distinguished. Early in the season during the cold days of May it is wholly nocturnal, later it works day and night. It continues to sting the plum till in July. Its puncture can readily be told from that of any other insect, as it is always marked with a crescent thus ☾. The grub which hatches from the egg is maggot-like, as it has no legs. It works in plums, peaches, cherries and apples, and causes the plums to fall, but not the other kinds of fruit. Any one can find the Curculio by shaking their trees in June over a white sheet. Look closely and there will be seen the small bud-like weevils. The smoke from burning coal tar, will drive the Curculio away without injury to the trees, and save the plums, if it is practiced thoroughly. But the jarring method is perfectly effective and better. If desired I will give this method next spring, when it is needed.

A. J. COOK.

Lansing, Mich., Sept. 18, 1880.

[We thank Prof. Cook for this correction and full description of the Curculio, and shall be pleased to have him give his method of jarring, &c., when convenient.—ED.]

Honey Harvest.

We had so much rain in the early part of the season that bees could do nothing till Aug. 1st; since then they have stored some surplus. If the season continues as favorable as it is now, we shall have a good fall crop of honey.

G. W. Zimmerman.

Napoleon, O., Aug. 25, 1880.

I put out of the cellar last spring 100 colonies of Italian bees; I have extracted 150 lbs. of honey, but ought not to have taken it; I shall not have any surplus honey. Mr. Hatch has 15 colonies, and said he examined a part of them this week, and they only had about 3 lbs. of honey in each hive. All the bees in this neighborhood are in about the same condition; some have starved. R. S. Johnson.

Lockport, Ill., Aug. 30, 1880.

I shall obtain 350 lbs. of box honey (buckwheat) from 20 colonies; no extracted. What should I plant on my sand and gravel hills for honey plants?

H. A. Knudson.

Mt. Morris, Wis., Aug. 25th, 1880.

[Melilot clover, mammoth mignonette or almost any honey plant with deep-penetrating roots.—Ed.]

On June 8th we had a storm that demolished every blossom; the bees had just begun to get well going, and this storm set them back fully a month; brood was dragged out, and every colony saw hard times and nothing to do. Since then bees have gained steadily. White clover was a failure; we had very few natural swarms. Since the 10th of August the honey harvest has been abundant, and will continue till frost comes. Prize boxes that I put on one week ago are nearly full now, and capped over. Colonies are all strong, and in fine working order.

Philip P. Nelson.

Manteno, Ill., Aug. 26, 1880.

I commenced this spring with 10 colonies of blacks; increased to 18 by division, introducing young and prolific Italian queens; I have had 3 natural swarms during the last 3 days, making 21 colonies now, and expect 8 or 10 more in a few days. I use a 7-inch cap for surplus, but it is now a brood nest from bottom to top. I have taken only 100 lbs. of extracted honey, but have considerable in each hive now, and always aim to keep much there. To this I attribute my success in the management of bees. I now have no blacks, and never want to keep any more. I have several colonies that are a little cross, but they give me the most honey.

J. S. Tadlock.

Kingsbury, Texas, Aug. 29th, 1880.

I have extracted 500 lbs. of honey, and have taken off 1,000 lbs. of comb honey to date, and have some more on the hives yet. In all, I have about ¼ of a crop. J. S. Lord.

Linden, N. Y., Aug. 30, 1880.

From 5 colonies in the spring, I had my first swarm on May 19; now have 20 colonies. The natural swarms are the largest I ever saw. I extracted 30 lbs. June 14th, and shall not have over 40 lbs. of box honey, which is second quality. I use the American hive. There are 4 or 5 others in the same condition, near me. I have blacks and Italians.

Wm. Chinnock.

Battle Creek, Mich., Aug. 24, 1880.

I commenced the season with 45 colonies, most of them very weak. I have 3,715 lbs. of extracted honey, and about 50 lbs. of wax; I have increased to 82 colonies. The season was too cold. The quality of the honey is very good.

S. S. Butler.

Los Gatos, Cal., Aug. 25, 1880.

For some unknown reason the honey crop has been exceedingly short with us. We have had a fair supply of rain and sunshine, and farm crops generally promise to be unusually abundant. The failure is very general, and there has been little natural swarming.

W. W. Hipolite, M. D.

DeVall's Bluff, Ark., Sept. 3, 1880.

The honey yield in this section has been very good; my bees have never done better. My 5 colonies wintered without loss, and gathered their first pollen on Feb. 26th, two weeks earlier than usual. They swarmed from May 8th to 28th, a full month earlier than usual. Two colonies swarmed 3 times, and have given 50 lbs. of comb honey. I shall have 300 lbs. from the 5 colonies in the spring (now 13). Apple blossoms yielded well, as did the locust; but basswood and white clover gave no honey. In June we had a heavy honey-dew running down the body of the pear trees on to the caps of my hives; but it is poor stuff for bees to winter on. It has been very dry here, and things are much parched up, but the bees are gathering some from fall flowers.

M. D. DuBois.

Newburgh, N. Y., Aug. 30, 1880.

On May 1, I had 53 colonies; increased to 79; have obtained 150 lbs. of white and 500 lbs. of dark comb honey. Honey is now coming in rapidly, and I expect to get about 1,600 lbs. F. Wilcox.
Mauston, Wis., Aug. 18, 1880.

From 25 colonies in the spring I now have 50, and 1,500 lbs. of honey (about ½ of which is extracted). They are doing well now—gathering freely.
Mrs. E. M. Covert.
Sellersburg, Ind., Aug. 24, 1880.

We have 10,000 lbs. of white comb honey, 2,000 lbs. of mixed, and expect a fair crop of dark honey. We never had thicker or finer flavored honey than this.
Benedict & Newman.
Perry Center, N. Y., Aug. 24, 1880.

My bees increased 50 per cent., but I have no surplus white honey. The fall crop will, I think, be an average one.
M. Blanchard.
Sherwood, Wis., Aug. 20, 1880.

I have 165 colonies of bees, in Langstroth hives. They wintered well, but the spring was unfavorable. Bees have not swarmed much, nor gathered much honey. S. Ruggles.
Saratoga Springs, N. Y., Aug. 25, 1880.

From 95 colonies in the spring I obtained only about half a crop; I extracted 3,750 lbs., and have 650 lbs. of comb honey in 2 lb. boxes, all basswood honey. I expect about 500 lbs. of dark honey. John F. Dipman.
Fremont, O., Sept. 4, 1880.

I have extracted this season 5,680 lbs. from 29 colonies of bees in Langstroth hives (mostly blacks and none more than ½ Italian). There is not a half crop on an average. I have taken out nearly twice as much according to the amount of bees as any one I am acquainted with. My apiary is in the mountains, and I had empty combs, is the reason of my having a larger yield than others. The honey is about equally divided between sage and dark honey, and is of fine quality and flavor. Honey is now worth from 6 to 7c. per lb. in Los Angeles; 2 years ago now it sold for 2¾ to 4c. per lb., and dull sale, while last Christmas it was scarce at 12½c. There is but little comb honey gathered here, as it is so far from market, and not a very good sale unless in glass sections and very choice. Last year about ¾ of the bees here starved out, and a great many lost all they had. Success to the Bee Journal. A. A. Dexter, Jr.
Cucamonga, Cal., Aug. 24, 1880.

Fall flowers are abundant, and our bees are gathering honey rapidly.
Joseph Saunders.
Beatrice, Neb., Sept. 3, 1880.

I commenced the season with 86 colonies, and have extracted only 2,200 lbs. of basswood honey. The white clover was killed last winter, and the weather is so wet at present that bees can do nothing on the buckwheat. I had 38 colonies last year and got 3,600 lbs.
R. D. Wilson.
Platteville, Wis., Aug. 29, 1880.

Honey ready for market, 900 lbs. of comb and 1,500 lbs. of extracted. The prospect is good for 3,000 lbs. more of comb honey. I have 130 colonies of bees, increased from 50 in the spring. I have 1,500 2-lb. sections on the hives, which will soon be full. The honey is from mint, boneset and asters, of which the swamps are full. I have no home market, and would like to sell to some reliable person; could you name one or more in the Bee Journal?
Thomas H. Shepherd.
Ubly, Mich., Aug. 25, 1880.

[See our advertising pages.—Ed.]

Bees in this section started off well in the spring, doing splendidly on fruit blossoms; the white clover secreted but little nectar, but basswood was the best I ever knew it in this section. Bees are are now gathering from goldenrod, asters and thoroughwort, which promises well for an unusually large crop. In the spring I sold and doubled up till I had but 20 colonies. I shall secure about 500 lbs. of comb honey, 1,000 lbs. of extracted, and increase to 40 colonies. With no preventing Providence, I shall be at the National Convention at Cincinnati.
M. E. Mason.
Andover, O., Sept. 3, 1880.

My crop report is as follows: Box honey, white 300 lbs., dark 350 lbs.; extracted, white 4,000 lbs., dark 6,000 lbs. The amount of dark honey is of course estimated, but very closely, and will be likely to exceed the estimate. The amount of honey is at least double what I have obtained any one year heretofore. The season has been a good one with us here; not so good as I have seen, but better than the average. I esteem your crop reports from so many different localities, as one of the most valuable features of the Journal, and hope you will continue to make them as full as possible. I had 85 colonies at the beginning of the season.
O. O. Poppleton.
Williamstown, Iowa, Aug. 28, 1880.

We have had a nice fall yield of honey, and it is still coming in. I have extracted 3,000 lbs., and have obtained 1,000 sections from 75 colonies, since Aug. 5. I put a swarm on wired frames on Sept. 3, and now it is as good a colony for winter as I have. D. S. GIVEN.
Hoopeston, Ill., Sept. 20, 1880.

[We are glad to notice the improvement in the reports during the past 3 or 4 weeks. The rains have much improved the fall yield of honey in many parts, and made many a bee-keeper's face brighen.—ED.]

I wintered 20 colonies of bees, which came out healthy, but have no surplus honey; there being no white clover in this locality. Some bees are in poor condition here; no swarming any where; where there is buckwheat there is no surplus honey. S. H. RUEHLEN.

Full honey report for the year: I have 43 colonies of bees; extracted from 30 colonies 1,467 lbs.; no comb honey. This shows my report of 285 lbs. Aug. 14 was premature. J. CHAPMAN.
Home, Mich., Sept. 18, 1880.

[To have 1,200 lbs. *more* than you expected is a good disappointment, is it not? Many others are in the same condition, we are glad to say.—ED.]

Bees have only about one-half enough to winter on. They may get more yet, but it is somewhat doubtful. We had our first frost last night. I have 700 colonies of bees, and have many of them to feed almost all they require for winter, and it is not a very profitable part of bee-keeping. I. S. CROWFOOT.
Hartford, Wis., Sept. 9, 1880.

Bingham's honey report for 1880 is as follows: The clover season opened with 85 colonies of bees in fair condition. In June and July clover and basswood honey was stored to a limited extent, but as the prospect seemed poor and honey thin it was allowed to remain in the hives (an extra set on top) until enough had been stored in the two bottom hives to winter and spring the bees without spring care. September 17 and 18 we extracted from 46 colonies about 1,500 lbs. of very thick, nice clover and linden honey; as the entire surplus of the season, and the smallest honey crop we ever had. Our present stock consists of 116 strong colonies of bees in two-story hives, well supplied with honey for winter. Shall pack 100 colonies as usual—each one having two sets of frames and 50 lbs. of bees, honey, pollen and combs for winter and spring use. T. F. BINGHAM.
Otsego, Mich., Sept. 20. 1880.

I commenced last spring with 7 colonies in box hives; 5 weak and 2 strong ones. I transferred into the Doolittle hive, have increased to 17, and have obtained 300 lbs. of section honey; my bees will have enough to winter on. I like the JOURNAL very much, and do not see how I can do without it.
CHARLIE W. BRADISH.
Glendale, N. Y., Sept. 5, 1880.

Bees are doing well on goldenrod and buckwheat. I commenced with 6 colonies, increased to 13 by dividing, and obtained 75 lbs. comb honey. J.H.EBY.
North Robinson, O., Sept. 7, 1880.

I have taken about 800 lbs. of comb honey, mostly basswood, a little buckwheat, and perhaps some white clover, though they seemed to get but little honey from that; but as there was white honey after the basswood was gone, I do not know what else it came from. The above from 9 colonies, with about 50 lbs. of extracted. S. E. TUBBS.
Auburn, N. Y., Sept. 7, 1880.

From 39 colonies I have of white comb honey 400 lbs., extracted do. 100 lbs.; and I expect 800 lbs. of dark comb honey and 200 lbs. of extracted.
GEORGE W. LONG.
Dearborn, Mich., Aug. 25, 1880.

The honey season has closed with about ½ a crop of honey. From my 14 colonies in the spring I have obtained 900 lbs of extracted and 200 lbs. of box honey. A. A. E. WILBER.
Kelloggsville, N. Y., Aug. 20, 1880.

I have 700 lbs. of extracted honey from 43 strong colonies in the spring. I now have 56, mostly Italians; some blacks and hybrids. All are well supplied for winter; they are and have been strong all summer. It has been my poorest year. B. F. PRATT.
Dixon, Ill., Sept. 12, 1880.

I commenced last spring with 16 colonies; wintered on summer stands in large Quinby hive; no spring feeding; bought one nucleus colony and $7.00 worth of foundation: Extracted 1,734 lbs.; box honey, 130 lbs.; total 1,864 lbs. Increased to 34 colonies, besides losing several that took "French leave" when I was not around. Bees are busy on golden rod now, with good prospect of getting all they need for winter stores.
Community, N.Y. S. R. LEONARD.

Correspondence.

Translated from the Bienen-Zeitung.

Speedy Cure of Foul Brood.

BY H——.

If any one desires to make microscopical foul-brood studies, he should possess such diseased colonies himself; to request others through letters or bee papers to send combs, bees or brood, is too circumstantial and unsafe, and these coming from a distance, would be likely not to possess any value.

For these reasons I had to make quite extensive experiments first to create this disease artificially, and second, to cure it again, and to prevent its spreading any further within my large apiary.

As my apiary is situated in quite an isolated spot, I could, without doing harm to any one but myself, undertake these experiments.

To create foul-brood within a hive, is not at all difficult; that is, if we would not at the same time desire to find out, how this disease in general voluntarily originates. I obtained the first foul brood, by feeding brood comb with sealed and unsealed brood, the same having passed over to a stage of fermentation and putrefaction, adding to it a little water; this mass showed all the symptoms of foul-brood. Of this stinking pap I put one part in 20 parts of thinned honey, putting the same into a flat vessel, and pushing it into the hive below the frames; as soon as this vessel became empty, another one of the same shape was placed as before, but this did not contain the food in a wet state, it was given to them, although of the same substance, as dry as possibly, so that through the air the micrococcus could rise.

In this manner therefore I obtained the first perfect foul-brood. Previous experiments with mere feeding did not offer such excellent results. But the point is not, how to create foul-brood, but how to cure it speedily and effectually. In this I proceed as follows:

If the well-known signs of foul-brood are noticed among a colony as for instance, first, want of uniformity in the color of the brood-cell coverings, of which some appear as if pierced in the center with a fine needle. Second, a slimy, yellow and brown mass after opening a brood-cell; third, black, rotten maggots, lying upon the lower cell-walls, being as yet not covered, then no delay must occur to securely fasten the entrance with a wire screen in such a manner that no bee can find egress. This must be done when the weather is pleasant and in the evening when all of the bees are within.

Should the weather on the following morning not be pleasant and sunny, then by removing the wire screen, I give the bees free flight, but if the weather is pleasant and sunny, then I commence the operation.

The hive is carried into a closed up room, and from it I take one frame after another, brushing the bees off with a strong feather, trimmed off about half, and wipe the bees off the combs into a wooden box, this latter being about 8 inches wide, 13 inches long and 8 inches in height; the walls of this box and also the bottom and lid have an opening about 3x5 inches, over which is nailed a fine wire screen. After having brushed off the bees in this manner from all the combs, those that remain within the hive are also put into the box. When they are all within the box, then the cover is placed upon it and put aside, covering the whole up with a cloth that has been dipped into a solution of 1 per cent. of salicylic acid and water. The combs being now free from any bees, are covered up in like manner as the box; having done this, the vacant hive is thoroughly cleansed. For this purpose a solution of salycilic acid, 1 part of salicylic acid to 10 parts of alcohol is used, and with it, and the aid of a strong bristle brush, the whole receives a thorough scrubbing, scraping it subsequently with pieces of broken glass. When this is done, then the hive is submitteed to another washing; in the same manner must the spot be treated, upon which the hive rested, and every object surrounding it. After this I place the hive upon its accustomed stand, and begin with the cleaning of the combs. These are uncapped and hung singly into a zinc-lined box, which also contains the solution, 1 part salicylic acid. to 10 parts of alcohol; within this the combs are moved about, raising and lowering them alternately for about 1 minute, when they are placed into the extractor and both sides emptied. My apprehension that I would aid in spreading the micrococcus while using the extractor on the combs, soon disappeared when I found, how well I could submit the whole to a microscopic control. The cover of the honey extractor was removed, and replaced by lights of plate glass, under the lower sides of which I fastened (using Canada balsam to make it stick) boiled cotton. After every few turns of the basket I inspected this cotton with Hartnack, system 9, ocular 3, and found no signs of living bacillariæ.

Furthermore, I took from this cotton, selecting parts that had been nearest to the combs, and put it into several small alembics, which contained partly fresh distilled water and partly nourishing liquid, and closed them up with boiled cotton. For this method in searching for bacillariæ and which is an excellent one, I am indebted to Prof. F. Chon, in Breslau, who makes mention of it in the second number of his contributions to Biology of the Plants, 1872, and can easily be followed. Here now I could not find the least trace of dimness, although I left these alembics with their contents stand quite a time. Examining the liquid with a strong magnifying glass, I found, it is true, a few bacillariæ, but only dead ones. Yet another number of these alembics, treated in the same manner, with an alloy of the extracted mass, furnished similar results.

After this I assort the combs; those containing many cells with pollen, I cut out, and such as have only a few, are freed of them by digging them out; this pollen, removed from its structure and containing bacillariæ and micrococcus, is, while crumbling it fine, mixed with a little alcohol and salicylic acid (1 part salicylic acid, 10 parts alcohol), and being thinned with honey-water, added again to the food and used. Now the combs once more are immersed and extracted, and put back into the hive.

When all the combs have been treated in this way, then I take the box, containing the bees, and place it with them into a second, somewhat larger zinc-tin box, which contains a solution of 1 part salicylic acid to 100 parts of water, its temperature is raised to 15-18° Reaumur, leaving it therein about 10 seconds. After that time the inner bee-box is pulled out again and exposed to the sunlight and air; about 10 to 20 minutes later it is again lowered into the solution for about 8 seconds, after which it is placed as before on a sunny spot. As it is only after a bath, lasting 30 seconds, that bees cannot recover, no apprehension need be felt, that the immersion of such a short duration might kill them; at least I have never lost a single bee thereby. Previous to, and after each immersion, I give the bees within the box a light shaking, so that they cannot remain together in a cluster, and that the solution is enabled to exert its influence over each and every one of them. That the fluid within the larger box must be sufficient in quantity, to cover the box that is lowered into it, is self-evident, the access of the fluid as well as its escape is made possible by the lattices. Here I should also mention that the bottom of the box containing the bees is slanting, to enable the water, when the box is raised, to run off.

As soon as the bees have been rendered dry by the sun and air, and have entirely recovered, I fasten in front of the entrance to the cleaned hive a wire screen, being 1½ foot square in front and from there up to the entrance diminishing in size on all sides, the base of which is horizontal up to the entrance; below this horizontal bottom, a sheet of paper is placed, to serve as a receptacle for the excrements and impurities carried out by the bees, which paper is to be changed daily. On one side there is a small sliding door, through which an unevenly divided feeding vessel is placed within, the larger division of which contains thinned honey with a little of the salicylic and water solution, the smaller division containing water. Having accomplished all this I return all the bees to the hive, and slide the window gradually up to the renovated combs. Here now I confine the bees for 2 or 3 days; they in the meantime removing the remnants of foul-brood, that have become hardened through the influence of the spirit and salicylic acid, from the combs.

But that I may not have anything more to do with this hive for the next 2 or 3 days, I shove through the opening, which is situated in the rear, below the window, a flat feeding vessel, which possesses a shiftable, perforated division, and place it in such a manner that the division wall is even with the window; into the outer, smaller division I place an uncorked wine bottle up side down. This bottle is filled with thinned honey, to which is added some of the crushed pollen and also a small quantity of salicylic acid solution; as the bottle stands with its mouth in the liquid of the vessel, it is quite plain, that only so much escapes from it, as is permitted by the access of the air.

In case such a diseased colony is very much reduced, it is well to strengthen it, by giving to them a capped brood comb from a healthy hive, leaving all the bees on it. The queen of a diseased colony need not be caged; at least I have in such cases never had a queen killed or injured.

After a lapse of 2 or 3 days, I remove the wire screen, allow the bees to fly out, and in every case I had the pleasure to find that the colony was cured.

Whilst I give this method to the public, it is my only desire, that my speedy and thorough treatment in curing foul-brood, may benefit all bee-keepers who may have this disease in their apiaries and to save to myself the trouble of answering questions in regard to it.

For the American Bee Journal.

A Proper Time for Queen-Rearing.

G. M. DOOLITTLE.

Years ago, when Mr. E. Gallup contributed largely to the pages of the AMERICAN BEE JOURNAL, he told us that the time to prepare our bees for winter was the month of August, and not to wait till October or November to do such work, if we wished to have success.

The reasons for such a course are that the bees form themselves into a sphere or ball as cold weather approaches, surrounding themselves with honey close at hand for use in cold weather. To this end, we find them in the fall unsealing the stores on the outside of the outer combs, and carrying it to the part of the hive selected for winter. Therefore we see, if after this is accomplished we disturb them by uniting, changing combs, etc., we must of necessity lessen the chances of safe wintering. In view of the above, which we believe to be correct, we have made it a practice to have all our queen-rearing done up before Aug. 20, and all nuclei and small colonies united, so that they may have sufficient time to prepare themselves for winter.

Again, as a rule, in this locality there is scarcely any honey gathered after Aug. 25, and queens reared out of the honey season have proved, as far as we have experimented, to be inferior in nearly all respects. We have had queens reared both before the harvest commenced in spring and after it had ceased in the fall, by the loss of the old queen, none of which proved to be efficient layers for any length of time. Nature designed queen-rearing and swarming only during a period that honey as well as pollen was being gathered from the fields, and we can always consider it safe to go according to the teachings learned by a close observation of our pets, and unsafe to go contrary to the rules and laws which govern the economy of the hive.

In view of the foregoing, we were not a little startled to read on page 130 of the *Exchange* for August, this advice by the editor:

"As this is the season when queens can be most cheaply reared or bought, there is no reason why the stock of queens cannot be reared *now* preparatory to next season's increase of colonies."

As the August *Exchange* put in its appearance August 26th, we are driven to the conclusion that this is the way the cheap queens are reared cheaply so they can be afforded at 65c., 75c. and $1.00 each. Except in some portions of the West, where fall flowers are abundant, queens reared by commencing operations Aug. 26th, would not be worth 25c. each, calling a queen reared under the swarming impulse worth $3.00 as a standard. At least, such would be my estimation of them from the experience of the last 8 years.

This rearing of cheap queens at all seasons of the year is suicidal to the best interests of the bee-keeping fraternity, although perhaps profitable to a few. As good prolific queens are of more importance to honey producers than all else combined, it stands us in hand to rear only the best, and if we buy, procure only such as are reared during June, July and the first half of August, and we soon shall hear less of poor and short-lived queens. On page 125, same number of *Exchange*, Mr. Sayles makes some close remarks and observations, and asks:

"Whether the necessity of rearing (queens) from the egg is theory, or the result of careful and long continued experiments?"

As this is a proper question, it may be well to look into the matter a little. As a rule, a larva fed for a queen from the time it hatches from the egg till sealed over, will produce a better queen than if fed as a worker for the first three days, and then fed as a queen, but we would much prefer the latter reared during July than the former reared in April or October.

Again, a prominent bee man advises as a sure way to get good queens, to get a frame of eggs the oldest of which are about hatching, place it in an empty hive, and place said hive on the stand of a populous colony. If you are sure you get only eggs or larvæ you will always get good queens, no matter (I suppose) when this removal is made. Nonsense! Such queens would not be worth introducing if thus reared in October, and I would rather have a nine-day queen reared in July, than one reared from the egg in this way at the same time. Still a queen from the egg under precisely the same conditions otherwise, is always preferable. When will our cheap queen-breeders learn that nature demands, to rear good qeeens, that there should not only be plenty of honey and pollen coming in from the fields, but that there should be bees of all ages in the hive to secure universal good queens.

Certainly no better queens can be reared than those reared in the swarming hive, where the queen lays the egg directly in the queen cell, and the larva is fed for a queen until it is sealed over.

Then, why not conform as nearly as possible to such a mode of queen-rearing, and not try to "climb up some other way," which can certainly be no better, and has numerous chances to be a partial, if not a total failure? Let us in this, as well as in all else we do, strive to use only the best means, and put forth every energy in our power to be advancing, until we shall have a strain of bees and a system of management that shall be as near perfection as is possible for mankind to obtain.

Borodino, N. Y., Aug. 28, 1880.

For the American Bee Journal.

Honey-Dew in Profusion.

W. M. KELLOGG.

After reading on page 324 of AMERICAN BEE JOURNAL for July, William Maxwell's article on honey-dew, I really wish he was here to-day. I would take him over to Benton Island and show him honey-dew to his heart's content, and he need not give me the $10 either. For weeks back it has been very hot and dry here, and during that time our bees have been working lively on honey-dew.

Our honey-yielding flowers are drying up sadly, yet, by the help of honey-dew our hives are very heavy with honey, and bees are going into the sections; some few have sections ready to come off. I know not whether this yield of honey-dew is universal on the river-bottoms, but with us it is very abundant, and the bees make a literal "roar" on it, from as early in the morning as they can see till long after sundown. I have seen none of it dripping from the trees, but maple, oak, hickory, grape leaves, etc., are literally covered with it.

To stand under a tree on the island, one would think a huge swarm of bees was clustering overhead. I do not pretend to say what this substance is, but I do know there are great quantities of it, and our bees are doing finely on it. I have extracted some of it, and find it a very dark-colored honey (?) which I know comes from honey-dew, for at this time of year our honey is usually very white. But people seem to like the taste of it, and call it good; for myself I prefer something else. I have been a bee-keeper for many years, and this is my first experience with honey-dew. It is not only found on the islands, but the leaves on melon vines, and on the ground under them, have their load of it, on the sand 50 feet above the water level. I have seen no signs of insects in connection with it. This substance on the leaves can not only be tasted, but if one had a biscuit along he could get a pretty good dinner of biscuit and—what shall I call it?

The high water injured our honey prospects, but this honey-dew is helping us out finely, and we hope for a continuance of it.

Oquawka, Ill., Aug. 16, 1880.

For the American Bee Journal.

Those Egg-bound Queens.

H. L. JEFFREY.

On page 387 of the August AMERICAN BEE JOURNAL, I see that Mr. M. S. Snow seems to think that I might have been mistaken. Now, for the queens (and thanks to him for calling my attention to it again), if they had been just mated, according to my observation, they would not have shown any foreign substance after 48 hours, as it is generally absorbed from sight in that time, or nearly so; but in the cases I alluded to, the queens had been laying for some time, and, furthermore, they had their wings clipped, making it impossible to mistake young queens just mated for the ones introduced or belonging in the hives.

I have, since writing the first letter to the JOURNAL, had the satisfaction of seeing a queen in the primary stages of the disease. The lower end of the abdomen began to enlarge, and the orifice began to spread open; in about 4 or 5 days it began to show quite plainly but the substance still remained soft, and when it begins to harden, and as soon as hard like the scab of a sore it will do to run a needle through and tear off; if, in tearing, it should cause any bleeding, dip the queen's abdomen in thin warm honey and drop her among the bees. The honey will prevent the bees from attacking her, and will help to cleanse any matteration and take out any soreness caused by tearing off the substance resulting from the hardening of the eggs.

I did not intend that, if anyone saw a queen whose abdomen showed something attached should amputate it immediately; but as I had just been called on to examine that colony and saw the situation, I penned the short article to call the attention of our best informed bee-keepers to the fact, and hoping some one else would be able to give some light on the subject; also to prevent the pinching off of the heads of some good queens or that have been good, because they have stopped laying. I also object to giving a colony containing such a queen a frame containing any larvæ,

unless you want the bees to pitch her out of doors. Wait till she begins to lay, and if the colony is weak, as soon as her eggs hatch then give the colony brood in all stages, and you will find things go on all right.

Mr. S. speaks about his rearing Italian queens. I have reared over 1,000 since 1873, but I never knew everything go wrong-end first as they have this season. Sometimes you have them, and very often when you look for them you will find the combs covered with cells. It has been so with me ever since June, and I know of others that have been troubled the same. Such a season has not been known here before.

Woodbury, Conn., Sept. 13, 1880.

For the American Bee Journal.

A Concert by the Bees.

W. T. STEWART.

Many concerts have been given in the halls of our town—but the best exhibition in the line of music that has ever been our pleasure to witness was a concert given by the bees this summer (not in a hall) but in a patch of Simpson honey plant in my bee yard. There are about one hundred plants. The bees commenced their work on the second of July and the concert is still going on lively. For over two months the plants have been literally covered with bees from daylight until dark every day (Sundays not excepted), it looks and sounds somewhat like a good swarm in search of a good place to settle. It is undoubtedly the best honey plant we have. I have in the same yard almost all the known honey plants and I take a great delight in watching them. The Simpson is by far the best of all. Motherwort is second best. Both are easily cultivated and bloom all through July, August and September. If bee-keepers would plant the fence corners and waste ground in their respective neighborhoods with these two plants until they are well seeded, we might have honey stored in boxes all summer, and it would pay well. They both come from the old root every year, for a life-time, and also new plants are springing up from the seed all around near the old ones.

I counted the seed pods on an average Simpson plant, they amounted to the enormous number of twenty-six hundred pods or flowers on one stalk, and there were four other stalks from the same root. I am planting the seed as fast as they ripen. I have seen but one bee on melilot this season or last.

I neglected to report my honey crop last month. I commenced the season with 35 colonies; increased by natural and artificial swarming to 73; I have 787 lbs. of white comb honey. I use the book frame, 10 inches square in the clear, 15 frames to the hive in summer and 12 in winter, mostly chaff hives. I work them by Doolittle's plan of spreading the frames in spring and towering up boxes or sections. My bees are mostly hybrids. Success to the BEE JOURNAL and Simpson honey plant.

Eminence, Ky., Sept. 14, 1880.

For the American Bee Journal.

Bee and Honey Show in Scotland.

J. D. HUTCHINSON.

Our bee and honey show was a fine one, and was a success except in finances. It rained incessantly for the first 3 days, interfering very much with the attendance. In Scotland we have had an excellent season, and I think bee-keepers have nothing to complain of.

The following is from the Kelso *Chronicle*, in reference to our show:

The Caledonian Apiarian Society held its 7th annual honey and bee show at Kelso, Scotland, on July 27 to 30, 1880.

The Society was instituted in 1874, and shortly afterwards was honored with the patronage of the Highland Agricultural Society. The aim of the Society's existence is to foster throughout the country a love for apiculture on the most humane, as well as the most profitable, principles; and the result of the Society's exhibitions, wherever they have been held, has been to introduce the bar-frame hive and the honey box, as well as to stamp out the inhumane system of killing the bees in order to get their honey. The exhibits in the show tent this year, although not so numerous as on some previous years, show a marked improvement in the science of apiculture. The center of interest to strangers was, as on other occasions, the observatory hives, where the Ligurians and the blacks were seen working side by side. The place of honor was awarded to an ordinary nucleus of 6 frames. Two well got-up Woodbury hives in glass cases were also much admired. Of greatest interest to the bee-keeper, however, was the excellent assortment of hives and bee-gear exhibited, showing all the most recent improvements, several of which have not hitherto been before the public. Mr. R. Steele, Fowlis, Dundee, deservedly carried off most of the honors in this department. It is to the

enterprise of this gentleman, Mr. Thomson, Blantyre; Mr. Young, Perth, and others that Scotland owes the rapid advancement in bee-culture that has been made of late years. Mr. Steele's collection of bee furniture was quite a museum. It contained, amongst its 30 articles, a comb foundation machine, hives of all sorts and sizes, supers, honey extractors, &c. One of the best articles in the tent was the extractor belonging to this collection. This is evidently the extractor of the future. Instead of having one large cylinder as hitherto, the new machine is composed of the ordinary central gearing, round which revolves two elliptical cases for receiving the combs. These cases may be turned on their own axes, so that the combs do not require to be withdrawn and re-inserted before both sides are emptied of honey. In this extractor the current of air which was previously so destructive to the young brood is altogether done away with; whilst the instrument is so constructed that it can easily be taken to pieces and packed away in a small space. The display of honey, especially the 23 lb. super, made up of 1 lb. sections, was very creditable.

A "manipulation" tent was erected adjoining the exhibition, where from time to time during each day interesting manipulations with live bees were carried on, by which the uninitiated are acquainted with the method of taking the honey without resorting to the destruction of bees. A gauze screen through which the whole operations can be witnessed, protects the vistors from the attacks of the busy little creatures.

On Friday a competition for driving bees took place for a silver medal offered by the Highland and Agricultural Society. The prize was for the one who performed the operation in the shortest time and neatest manner, and was awarded to Mr. James Johnson, who drove the bees and captured the queen in less than 7 minutes.

For the American Bee Journal.

Comb Foundation.

W. J. WILLARD.

I disagree with Mr. G. M. Doolittle on the comb foundation question. Two years ago I bought 10 lbs. of comb foundation from Mr. A. I. Root; out of that lot 5 sheets broke down for me and 2 sagged; the breaking down was my own fault (as I have since found out), and the sagging was the fault of those particular sheets. Last year I bought 10 lbs. of Mr. Chas. Dadant; none broke down, and there was no sagging. This summer I sent Mr. Dadant some wax (it was dark), and the foundation which I received has been used both in the brood chamber and in the surplus boxes (1 and 2 lb.), what has been the result? Simply this: I have had neither sagging, bulging nor "fish-bone," and the foundation was very heavy, not more than 5 feet to the lb.

I really think that I can make a success of any good, pure, yellow wax foundation, excepting the wired. If wires will not do in foundation with lozenge-shaped cells, I certainly do not want them in foundation. I have tried them to the above extent.

Would it not be better for bee-keepers to make some allowance for latitude, longitude and season? I hardly think Mr. Doolittle has done himself justice in his criticism on comb foundation. But I have made several dollars out of what I learned from some of Mr. D.'s articles.

Jonesboro, Ill., Sept. 5, 1880.

Translated from the German.

Healing Power of the Bee Sting.

The Augsburg *Abend-Zeitung* has the following: We have related to our readers how a severe attack of the gout was cured by the sting of bees, and we owe it now to them, to further state, that our patient was a brewer from Markle—has enjoyed the best of health since that sting cure. Having been confined to his bed for weeks in the month of April, he has been up to this hour perfectly healthy after receiving those seven bee-stings!

A further confirmation of the curative power of bee-stings is found in the experiment that was made in the meanwhile at Rettenbach, in the upper Palatine, and which has since then been vouched for as true in every respect. The inn-keeper of that place, G. Hirl, had adopted some time ago a poor, lame girl, of 8 or 9 years (Magdalen Kuhn was her name), who could not even stand upon her feet. After all remedies had proven themselves fruitless, they, following the advice of a physician, took refuge to bee-stings, and lo! immediately after the first stings, an improvement took place in her condition which increased after repeated applications quite rapidly, so that the child now not only stands up without assistance, but can also run around at pleasure, and consequently we may assume, that a perfect and perhaps a lasting cure has been accomplished.

Augsburg, Germany.

From the Prairie Farmer.

Uniting Colonies of Bees.

MRS. L. HARRISON.

Most apiaries contain colonies that have not stores or bees to winter successfully, and should be united. This uniting of two colonies of bees when they stand side by side, by lifting the frames together into one hive, appears a very simple matter. And so it is, provided that you do not care if one colony kills the other. We used to follow apiarists, who told us to move the bees to the side of the hive they were to occupy when united, and as soon as they were accustomed to this, if a cold day came so that the bees would not fly, lift them together, giving each one the side of the hive formerly used, and as the weather grew cold they would unite peaceably. But we found to our sorrow that although, the bees did not fight when put together, if a warm day came, even if they had been put together a week, the stronger would exterminate the weaker. We now prefer to unite our weak colonies when the weather is warm, and not wait for October's cold to stiffen their fighting propensities.

The careful bee-keeper will sometimes find during August and September, a queenless colony; generally old colonies that had swarmed, and the young queen was lost on her bridal excursion; such colonies do not contain eggs or larvæ so the bees have not the means to raise another. We would remove the frames and give them to some late colony needing them, except what there were bees to protect, and put in a division board, confining them to one side of the hive. If we had an afterswarm, as they always contain a young vigorous queen, we would prepare it for uniting in the same manner. In the evening, after all the bees had returned from the fields, we would choose the location we preferred best, and set one hive upon the other, putting weeds or grass to obstruct the flight of the removed one, so that they would know that something was different, and mark their location. In two or three days the bees will know their abiding place, and can be lifted into the lower hive. There will be no fighting as each enters its own side of the hive, and as there is but one queen, they gradually assimilate. In the course of a week, we would brush off the bees from one of the frames of the queenless side, and put it in the other, removing the division board; in this way gradually increasing the size of the apartment containing the queen until all were united.

Bees seldom quarrel, if only one or two frames are taken from the same hive, thus taking enough bees from four or five different hives to form one colony—it seems to confuse them. In uniting together several small colonies, we would remove all queens but one, and hold all the others in reserve until it was ascertained whether the bees had accepted the queen given them. These queens could be kept in wire cages well provisioned, and if the nights were cool a few bees might be admitted with them, or if they were laid upon the frames under the quilt of a strong colony, they would be both warmed and fed, until needed.

Peoria, Ill.

For the American Bee Journal.

Experience with Comb Foundation.

C. E. WALDO.

Noticing some reports of the experience of others with comb foundation, I will give mine. Last spring I bought a Bourgmeyer machine and began to get sick of it, because the foundation that I made stretched more or less according to the weight of the swarm. I use sheets of foundation 9½ inches square; my frame, inside measure, is 10x11 in., so that the foundation fills, in width, within ¼ of an inch, and within 1½ in. in depth.

I obtained some Dunham foundation at Lansing, Mich., and cut it the same size as mine, and put it into a new and heavy colony to try it. I put in the centre of the hive a frame of brood, so the bees would cluster the heaviest in the centre of the hive, then I put a frame of my foundation, next a frame of Dunham, then mine again. I had only one frame of the Dunham in the hive. The Dunham stretched clear to the bottom of the frame; mine stretched ½ inch; the queen laid in the foundation made on the Bourgmeyer machine, both sides of the Dunham, before she laid a single egg in the latter, and this was one of the last the queen laid in. I make my foundation so it runs 7 feet in length by 8½ inches in width (about 5 square feet) to the pound. I have 86 colonies at this date, which are now doing well, and have been all this month. The fore part of the season was too wet, and bees but little more than made a living.

Grand Ledge, Mich., Aug. 23, 1880.

[Your experience with the Dunham foundation was exceptional, and so much at variance with our own and scores of others who have tested it, that we are

convinced you unintentionally used a defective sheet, either in point of manufacture or quality of wax. We have had samples sent us, manufactured on the Bourgmeyer machine, which were very fine, and much resembled the Dunham in thinness of base and height of side-wall; but even a half-inch stretch in any foundation that depth would be objectionable.—ED.]

For the American Bee Journal.

Healthfulness and Flavor of Honey.

E. R. BAKER.

There is a great error abroad in regard to the comparative merits of comb and liquid honey, which like every other error can have only pernicious influence and therefore could be squelched. The object of this article is to squelch the said error, which consists in the popular belief that liquid honey is in its nature inferior to comb honey in point of flavor. A moment's reflection will be sufficient to convince anyone of the fallacy of this idea.

We admit that liquid honey is sometimes inferior to comb honey, but not from its nature. It is inferior only in cases where it has received improper treatment.

1. The old fashioned "strained honey" was inferior because bees, brood, pollen and honey were all pressed together in a conglomerated mass in the process of straining, and as a result strained honey was not just as nice and sweet as honey in the comb.

2. Liquid honey that has been taken from the comb by any process before it is capped over and well ripened is vastly inferior to comb honey in flavor; in fact it scarcely deserves the name of honey. It is called green honey. It has not the proper consistency being too thin, however where honey is removed in this thin state and placed in jars with cloth covers, the water part will evaporate and the honey thicken and attain nearly as good a flavor as if it had been left on the hive until capped over.

Machine extracted honey has none of the objections that are urged against strained honey and when well ripened is fully equal to the best comb honey. This must, as we have said, be evident upon a moment's reflection, for the comb containing the honey consists only of beeswax and it is absurb to suppose the flavor to inhere in the wax. The flavor must be in the honey as it comes from the perfume-laden flowers. Take up a comb of wax either before or after it has been made the receptacle of honey and chew it (or, if you are a very strong comb-honey advocate, eat it) and you are welcome to use as an argument against our position all the flavor you can get out of it.

Neither can it be plausibly argued that the flavor of honey is so volatile in its nature as to escape during the process of extracting; in none of the edible productions of nature or art do we find flavor so evanescent. There is no kind of syrup, liquor, extract or fruit that will part with its flavor upon such slight manipulation. The flavor remains in the honey after it is extracted.

It is held by some visionary theorists that the breaking down of the delicate cell-walls of the comb in eating it, so graduates the shock of sweetness on the sense of taste, as to greatly enhance its delicacy and power, while liquid honey overwhelms and destroys the finer sense of taste. If this position were true, then fine syrup or even sorghum molasses poured into combs and capped over by the bees, would possess the crowning excellence in point of flavor belonging to comb honey. Thus we leave this error to die in the last ditch.

Comb honey is also more expensive than extracted honey. It costs just twice the labor to bees and bee-keeper to produce the former than it does the latter. It takes just as long for the bees to build a set of combs as it does to fill them with honey.

By extracting the honey and returning the combs each colony will produce double the amount of honey.

A generous disposition therefore, as well as a spirit of economy must ever favor the use of extracted honey, for thereby, we have an increased amount, of equal quality, produced at far less cost, bringing it to the tables of double the number of households.

The argument of healthfulness also lies strongly in favor of extracted honey. I should hardly presume that it would be necessary to inform intelligent parents that wax of any kind is not a healthy diet for themselves or their children. Children sometimes chew wax to the slight detriment of their health, but no child would of its own accord swallow or eat it while reason held its throne. Does the wiser parent gives it comb honey? Wax disguised in honey so that it can be swallowed to go on the mission of mischief, clogging the stomach, constipating the bowels; thus vitiating the blood and irritating the brain and nervous system!

Sidney, Iowa, July 15, 1880.

Translated from the Bienenvater.

Fructification in Closed Apartments.

FRANCIS JOSEPH GROHMANN.

If the bee-keeper has the necessary material with which to carry on the rearing of queens, and has also young, unfructified queens, then it will become necessary for him, in case he desires to have the fertilization accomplished with certain drones, to make two indispensable arrangements, namely: 1. A barrel must be arranged for this purpose, by fastening below the bunghole, within the barrel, a wire bottom or perforated sheet of tin. 2. A pretty large box, having 5 sides with glass doors, namely, to the ends, sides and top, constructed in such a manner that it will fit upon the hive. When these arrangements have been correctly completed, then the operation itself can begin.

One of the first queens coming out of the cell is put into the bunghole entrance, then the glass box is placed upon it with the opening closed, and there she remains to be nursed by the bees that are below the wire screen, until the time arrives in which the queens usually make their bridal trips. If the weather is favorable, that is, pretty warm, then the bee-keeper must place in the glass box the drone which he desires to fructify the queen, open the sliding door, and, as the queen has no knowledge of any larger space than that of her prison, she will immediately be attracted by the drone and the gleams of light that fall within the cage, and will start on her bridal trip, after which she must be replaced by another.

Austria, April, 1880.

[This is almost identical with several experiments that have been tried in this country, and pronounced impracticable because of frequent failures.—ED.]

From the Sacramento Record Union.

Go and Tell It to the Bees.

ADDIE L. BALLOU.

To my father, A. H. Hart, Sr., who who passed away while out with his little grandchild on the lawn watching the bees, which for many years have been identified with his daily life, at Appleton, Wis., in his 75th year. There is a tradition among the Eastern people, that when a death occurs in the family some other member must rap upon the hives and tell the bees, else they will go away. Could the dear old man have chosen the condition of his own exit, this glorious setting of life's sun into peaceful and painless slumber would have been ordered as it was, on that afternoon in July last, when he arose newborn through sudden transition.

Have you heard the olden legend
By the Eastern people told,
Of the strange old superstition,
That when Death's dark pinions fold
Newly 'round some cherished loved one,
That the dearest friend to these,
To the busy hive must hasten
And must "tell it to the bees?"

Is it true some spirit lingers
'Twixt their busy hives and ours,
And that half the sweets they gather
From the breaths of human flowers?
Did some other winged thing tell them,
When the bees o'er drifts of snow
To her window came to perish
When she died, who loved them so?

How distinctly I remember
All those drear unmothered years;
Of the lake-side and the cottage
Where I wept my childish tears:
How, from early-budding April
Till the autumn seered the trees,
Every twilight found my father
Busy with his swarms of bees.

For they loved him, and caressed him
With their gauzy, restless wings,
Dusty with the yellow pollen,
Girt about with golden rings.
Year by year they thus enriched him
With the sweets from flowering trees,
And with each white thread that crowned him
Dearer grew to him the bees.

Oh, I know how they will miss him,
All the summer afternoons,
When the languid perfume lingers
O'er the lily-spread lagoons!
And the angel that received him
Must have told among the trees,
When the dear old man, grown weary,
Fell asleep among the bees.

Busy bees, cease not your humming,
Burdened with the summer sweets;
Hallowed thoughts 'round you are clustered,
Where the past and future meets.
When shall come the dark-winged angel,
And my weary spirit frees,
Will some loving friend or kindred
Tell it to my father's bees?

Sacramento, Cal., March, 1880.

For the American Bee Journal.

About Swarm Catchers.

GEORGE GARLICK.

In the Sept. No. of the JOURNAL, I. C. Thorn, M. D., inquires about swarm catchers. As I have made and used them for a number of years, I will give my experience with, and opinion of them. In 1869, having trouble from my bees settling on the trees of my neighbors, and their objections to my going on their property to take them, I devised a swarm catcher. It consists of a tin tube 10 inches long, 1 inch deep and 4 inches wide, the top having 10 openings 5-32x4 inches; 1 inch at each end is a little tapering; one end of this tube is nicely inserted into the entrance of the hive, and at the opposite end is placed a box 10 inches square, made of ½ inch lumber, the end of the tube projecting

into the box about 1 inch. One side of this box is covered or made of a frame or door covered with fine wire-cloth; the whole costing about 50c. One of these was fitted to each hive just before the swarming season commenced. The drones and queen not being able to pass through the openings in the tube, pass on into the box and on the wire cloth, the swarm, on returning, settling with them.

Now, when a swarm starts out, if some one is on hand, by covering the openings on the top of the tube with a piece of board, cut to just fit over and close all the openings, all the bees are run into the box; now draw the tube out from the hive, close the end of the tube, and remove it and the swarm anywhere you wish, and hive them in the usual way; or, what is better, remove the old hive to a new stand, and put the new hive in its place; or, if you have good, close, new hives, with glass in one side to admit the light, you may use one of them in place of the box, and run your swarm directly into their new home; but I could never get them to enter a dark hive or box.

I have had as many as 4 swarms all issue within a few minutes of each other, and by running them into these boxes have kept them all separate and hived them at leisure.

Second or after-swarms may be hived in the same way, taking care to remove the catcher from the hive in about 12 days after the first swarm has left, so that the young queen can go out to meet a drone.

As this same arrangement confines all the drones, it may be useful in Italianizing, as all the common drones can be controlled. I may say that a few of the worker bees will go out through the tube, and find themselves in the box; to let them out I enlarge a few meshes of the wire cloth in the front of the box, and close to the top; this can be done with a scratch-awl, taking care that the openings are not more than 5-32 of an inch, or your queen may go out through them.

I tried a great many shapes, forms and experiments before I got anything to work to my satisfaction, and although I always managed to get the queen, I found some improvement could be made, and have no doubt this can be much improved yet.

For the benefit of any who may be disposed to experiment, I may say that I first tried perforated tin with round holes, for the bees to pass through; this let the bees out all right, but would take all the pollen from a loaded bee in trying to get into the hive again.

I then tried openings 5-32x1 inch; this worked better; but still, if a bee passed through close to either end, it would take the pollen from the side that came against the end.

I then made the opening the whole width of the tube, the tin being cut in the centre of the opening, and both edges folded back so as to leave no rough edges for the bees to wear out their wings on.

Now, after using these from necessity for several years, I find it better to examine hives often, and divide and increase artificially, rather than go to the expense of these swarm catchers, and they would be in the way when extracting. I have now removed my apiary to a place where my neighbors will not be troubled, and have this year increased them from 90 in the spring to 142, only 10 of these being natural swarms. I have discarded the swarm catchers, and they are lying around my apiary, their usefulness gone—killed by progressive bee-culture, the extractor, frame hives and artificial swarming.

The honey season here has been poor this year; not over ½ a crop. I am putting mine in tin cans, holding 10, 20 and 60 lbs. each.

Warsaw, Ont., Canada, Sept. 8, 1880.

From Western Agriculturist.

Carrying Bees to Pasturage.

C. P. DADANT.

The present season has been the worst to my knowledge of a great number of years in the bee business. The white clover was scarce, owing to the drouth of last year and there was therefore no June crop of honey. The bees were short of supplies ever since the beginning of spring, and instead of breeding and increasing in numbers, they became weaker and weaker, and July saw us with depopulated hives and a dry summer in the bargain. The drouth in these hills had parched the corn so that by August 15th it was fit to cut for fodder. Starvation stared at our bees. On the other hand, the bottoms of the Mississippi, which have been overflowed, were covered with a luxuriant vegetation and abounded in wild flowers. We therefore concluded to move them to those low lands.

On July 14th we started, with two teams and hay racks on which to haul the hives. Our intention was to haul them during the night to prevent the smothering of bees which the heat of the day would cause. We began packing and nailing at 9 p.m., and finished at 3 a.m., when we started. Arrived at

noon, and soon the heretofore deserted bottom land was literally swarming with bees, gathering honey from the millions of blossoms. In a week after, we had brought safely and in good order 115 colonies of bees to the same spot. At the end of the first week, one of the first colonies brought was found to have gathered 20 lbs. of honey during those 7 days. This hauling of bees to the bottoms will therefore prove to be a clear gain of several thousand pounds of surplus, while the bees on the hills will barely gather enough honey to carry them through the winter.

Hamilton, Ill., August, 1880.

Translated from the Bienen-Zeitung.

Apis Dorsata of the Island of Java.

C. J. H. GRAVENHORST.

A great deal has been written about this bee at different times, and yet our knowledge of it is very limited indeed. At an earlier period the report was published that it was much larger than our common bee, that it built combs as large as a wheel, upon the branches of trees, and was, withal, so wild and fond of stinging that it could not be tamed. Whether this report is based upon truth or not, can only be decided when more reliable intelligence has been received. Should this bee really be found in Java, then I should like to request Mr. Rykens, who at the present time resides there as an instructor in bee-culture, to forward to us, through the *Bienen-Zeitung*, reliable and thorough information in regard to the Dorsata.

I naturally suppose that Mr. Rykens, as an instructor in bee-culture, is a reader of the *Bienen-Zeitung*, and will certainly take an interest in a bee about which we are so anxious to be enlightened, and which might in very many respects revolutionize bee-keeping in the future.

I find in the AMERICAN BEE JOURNAL of Dec., 1878, an article worthy of notice from the pen of the renowned apiarist, Rev. L. L. Langstroth, whom we are pleased to call the Dzierzon of America, in which he writes about the Dorsata and its introduction into America.

He states therein that Mr. Woodbury, of Exeter, England, who has recently died, was the only one who ever saw the Dorsata and its comb-building. He further says he had many letters from him. He unfortunately died much too soon for the world of bee-culture. He says that these bees would also nest in closed apartments, for at one time a swarm of this race of bees had settled down within a steamboat shed in the harbor of Galle, Ceylon.

The cells of the workers of the Dorsata are of about the same diameter as those of our bees, only a little longer. Mr. Woodbury, therefore, had taken the view, that our bees could use the cells of the Dorsata; they would only need to nibble them off a little. This, Mr. Langstroth takes as his basis, when he says that we could probably give to our bees a queen of that race, and that perhaps our drones would copulate with the queens of the Dorsata. Mr. Woodbury, he says, had placed much weight upon the fact that the Dorsata is much larger, and consequently has a longer tongue. In case the Dorsata could not be tamed, then a mixed breed could be produced, which might become, as far as activity is concerned, a valuable race of bees.

Braunschweig, Germany.

For the American Bee Journal.

What my Bees have done.

C. A. JONES.

I have been keeping bees for 40 years, more or less, and this is the poorest season for honey I have ever experienced. I wintered 32 colonies; sold one in the spring, leaving 31, all strong and in good condition. I looked for a large crop of honey and plenty of swarms. I had 9 or 10 swarms; sometimes putting 2 together; I put 1 second swarm back; 1 or 2 went back and did not come out any more. I had an increase of 8; sold 2 of them; only 1 of the remaining 6 has enough to last them; I shall double 2 and feed them. I thought I should have to feed all my bees but lately they have been storing honey from red clover, golden rod and other fall flowers. My bees are all hybrids; they stored considerable honey this spring from fruit blossoms and black locust; after that they barely made a living till lately. I think all but the new swarms will have a plenty for winter. The hives are quite heavy; I have had no honey, except about 50 lbs. of comb honey and about 10 lbs. of extracted. I shall get quite a number of boxes partly filled, which I will use to feed those that are lacking. The cause of the honey failure here was on the account of wet weather during the early part of the season. About the first of July it turned dry and has been so ever since, until within the last two weeks when, we have had a few light showers.

New London, Ind., Sept. 8, 1880.

Business Matters.

OUR TERMS OF SUBSCRIPTION,

PAYABLE STRICTLY IN ADVANCE.

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THOMAS G. NEWMAN
974 West Madison St. CHICAGO, ILL.

☞ Specimen copies of the BEE JOURNAL and our catalogue of bee literature sent free upon application.

☞ Postage stamps received in payment of all sums due this office, when bank bills are not available.

☞ We have prepared Ribbon Badges for bee-keepers, on which are printed a large bee in gold. Price 10 cents each, or $8.00 per hundred.

☞ When changing a postoffice address, mention the *old* address as well as the new one.

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☞ By referring to the printed address on the wrapper of every copy of the BEE JOURNAL, each subscriber can ascertain when his subscription expires. We stop sending the BEE JOURNAL promptly when the time for which it is paid runs out—sending only during the time paid for. In making remittances, *always* send by postal order, registered letter, or by draft on Chicago or New York. Drafts on other cities, and local checks, are not taken by the banks in this city except at a discount of 25c., to pay expense of collecting them.

Honey & Beeswax.

[We will insert free of charge, under this heading, the names and addresses of persons having honey and wax to sell, giving address, description and prices; all to occupy not more than three lines.—ED.]

7 bbls. clover and basswood, extracted, at 10c., delivered on cars here, and 500 lbs. of nice comb honey, in 4½x4⅛ sections. H. F. WALTON, Woodman, Wis.

5 bbls. Extracted, to sell (2 linden and 3 poplar), 40 gallons to the bbl.; $32.50 each, delivered on cars.
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DISSOLUTION NOTICE.

Notice is hereby given, that the co-partnership heretofore existing under the name of THOMAS G. NEWMAN & SON, is this day dissolved by mutual consent. All accounts due to the said firm must be paid to Thomas G. Newman, who will also pay all claims against the late firm, and continue the publication of the AMERICAN BEE JOURNAL and Bee Books and Pamphlets. The business of dealing in Bee-Keepers' Supplies will be continued by Alfred H. Newman. Dated at Chicago, Ill., July 1, 1880.

THOMAS G. NEWMAN,
ALFRED H. NEWMAN.

Local Convention Directory.

1880.	*Time and Place of Meeting.*
Sept. 28	—Kentucky State, at Louisville, Ky.
29, 30 and Oct. 1	—National, at Cincinnati, Ohio.
Oct. 5	—Albany County, N. Y., at New Salem, N. Y.
5	—Cortland Union, at Cortland, N. Y.
5, 6	—Northern Michigan, at Carson City, Mich.
6, 7	—Tuscarawas and Muskingum Valley, at Newcomerstown, O. J. A. Bucklew, Sec., Clarks, O.
7	—Central Michigan, at Lansing, Mich. Geo. L. Perry, Sec., Lansing, Mich.
14	—Southern Kentucky, at Louisville, Ky.
14, 15	—W. Ill. and E. Iowa, at New Boston, Ill. Wm. M. Kellogg, Sec., Oquawka, Ill.
20	—Southwestern Wis. at Platteville, Wis. N. E. France, Sec., Platteville, Wis.
Nov. 9	—Lancaster Co., Pa., at Lancaster, Pa.
Dec. 8	—Michigan State, at Lansing, Mich.
1881.	
Jan. 11	—N. W. Ill. and S. W. Wis., at Freeport, Ill.
18	—Northeastern Wisconsin, at Oshkosh, Wis.
Feb. 2	—Northeastern, at Rome, N. Y.
5, 6	—Ashtabula Co., O., at Andover, O. W. D. Howells, Sec., Jefferson, O.
April 5	—Central Kentucky, at Winchester, Ky. Wm. Williamson, Sec., Lexington, Ky.

☞ In order to have this Table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

☞ A few copies of the first edition of Cook's Manual may still be obtained at this office, at 30c. each or 4 for $1.00.

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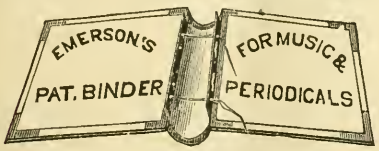

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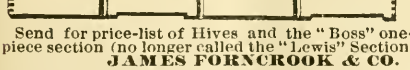
SECTIONS AND HIVES.



Send for price-list of Hives and the "Boss" one-piece section (no longer called the "Lewis" Section.
JAMES FORNCROOK & CO.
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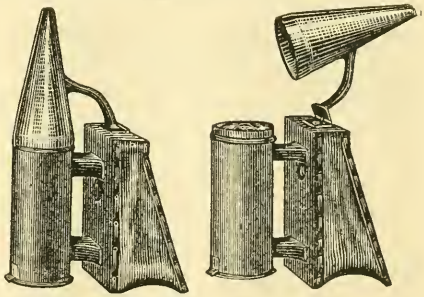

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Italian Queens or Colonies.

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A TREATISE giving an index of diseases, and the symptoms; cause and treatment of each, a table giving all the principal drugs used for the horse, with the ordinary dose, effects and antidote when a poison; a table with an engraving of the horse's teeth at different ages, with rules for telling the age of the horse; a valuable collection of recipes, and much valuable information,

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Send for my price-list of Bees, Queens, Nuclei, &c., for 1880. Early Queens a specialty. Address,
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Enlarged Edition, contains over **1,000,000** Industrial Facts, Calculations, Processes, Trade Secrets, Legal Items, Business Forms, etc., of vast utility to every Mechanic, Farmer, and Business Man. Gives 200,000 items for Gas, Steam, Civil and Mining Engineers, Machinists, Millers, Blacksmiths, Founders, Miners, Metallurgists, Assayers, Plumbers, Gas and Steam Fitters, Bronzers, Gilders, Metal and Wood Workers of every kind, Builders, Manuf'rs and Mechanics. 500 ENGRAVINGS of Mill, Steam, and Mining Machinery, Tools, Sheet Metal Work, Mechanical Movements, Plans of Mills, Roofs, Bridges, etc. Arrangement and Speed of Wheels, Pulleys, Drums, Belts, Saws, Boring, Turning, Planing, & Drilling Tools, Flour, Oatmeal, Saw, Shingle Paper, Cotton, Woollen & Fulling Mill Machinery. Sugar, Oil, Marble, Threshing & Rolling Mill, do., Cotton Gins, Presses, &c. Strength of Teeth, Shafting, Belting Friction, Lathe Gearing, Screw Cutting, Finishing Engine Building, Repairing and Operating, Setting of Valves, Eccentrics, Link & Valve Motion, Steam Packing, Pipe & Boiler Covering, Scale Preventives, Steam Heating, Ventilation, Gas & Water Works, Hydraulics, Mill Dams, Horse Power of Streams, etc. On Blast Furnaces, Iron & Steel Manufacture, Prospecting and Exploring for Minerals, Quartz and Placer Mining, Assaying, Amalgamating, etc. 461 TABLES with 500,000 Calculations in all possible forms for Mechanics, Merchants and Farmers, 800 items for Printers, Publishers and Writers for the Press. 1,000 items for Grocers, Confectioners, Physicians, Druggists, etc. 300 Health items. 500 do. for Painters, Varnishers, Gilders, etc. 500 do. for Watchmakers & Jewelers. 400 do. for Hunters, Trappers, Tanners, Leather & Rubber Work. Navigation, Telegraphy, Photography, Book-keeping, etc., in detail. Strength of Materials, Effects of Heat, Fuel Values, Specific Gravities, Freights by rail and water—a Car Load, Stowage in Ships, Power of Steam, Water, Wind, Shrinkage of Castings, etc. 10,000 items for Housekeepers, Farmers, Gardeners, Stock Owners, Bee-keepers, Lumbermen, etc. Fertilizers, full details, Rural Economy, Food Values, Care of Stock, Remedies for do., to increase Crops, Pest Poisons, Training Horses, Steam Power on Farms. LIGHTNING CALCULATOR for Cubic Measures, Ready Reckoner, Produce, Rent, Board, Wages, Interest, Coal & Tonnage Tables. Land, Grain, Hay, & Cattle Measurement. Seed, Ploughing, Planting & Breeding Tables, Contents of Granaries, Cribs, Tanks, Cisterns, Boilers, Logs, Boards, Scantling, etc., *at sight.* Business Forms, all kinds, Special Laws of 19 States, Territories and Provinces (in the U. S. and Canada), relating to the Coll. of Debts, Exemptions from Forced Sale, Mechanics' Lien, the Jurisdiction of Courts, Sale of Real Estate, Rights of Married Women, Interest and Usury Laws, Limitation of Actions, etc.

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THOMAS G. NEWMAN,
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Now is a good time to sow Sweet Clover Seed. I have on hand a large supply of choice seed, this season's growth; also Mammoth and Fragrant Mignonette, Imported Bokhara Clover seed, Catnip, Motherwort, Cleome and other popular honey plannt seed.

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972 West Madison Street, CHICAGO, ILL.

Cyprian Queens for 1881.

We are now registering orders for these bees for the season of 1881. Send for our Cyprian Queen Bee Circular. H. ALLEY, Wenham, Mass.

Foundation Machines for Sale.

3½ cents per square inch. Foundation, 35c. per lb. in 5 lb. lots; less than 5 lbs., 40c.
JOHN FARIS, Chilhowie, Smythe Co., Va.

W. Z. HUTCHINSON,

Rogersville, Genesee Co., Mich.,

Will furnish queens during October at the following prices: Single queen, 75c.; 6 queens for $4.25; 12 for $8.00; 24 or more, 60c. each. Tested queens, $1.50 each. For further particulars see advertisement on page 445 of September number. 1tp

ADULTERATIONS OF FOOD;

What we eat and what we should eat. 200 pages. Paper cover, **50c.**, postpaid. Sold by

THOMAS G. NEWMAN,
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MAN WANTED,

Reliable and experienced, to take charge of apiary and do light gardening. Apply to
DOCTOR NUGENT, Strathroy, Ont., Canada.

BEES WANTED,

From 100 to 200 colonies, mostly Italians (pure). Address, DOCTOR NUGENT, Strathroy, Ont., Canada.

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Send for Sample Papers and Agent's Outfit, giving us Good References.

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40 pages, 25 cents. Remit in currency or postage and send for our Special Terms to Agents. No other House equals us in our Commissions to Agents.

Address, **THE COSMOPOLITE,**
Sioux City, Iowa.

Mr. L. Johnson, of Kentucky, has the characteristic large mouth of the orator, is rather above the medium size, wears a full red beard and side whiskers, and his language is eloquent. He looks the typical man from Kentucky, and enters into every discussion with real Southern ardor.

Mr. T. F. Bingham is a man of classic features, and is considered quite an authority on bee-culture.

The newly elected officers, as well as the place of meeting are all well chosen, and we confidently predict a pleasant and profitable meeting next fall. Two years ago we had about $5 in the treasury; now we have nearly $100, after paying all expenses. In 1876 the Society was expected to die at Philadelphia, but now it is a power felt not only in every State of the Union, but also in Canada and Europe, and its prospects are as bright as the science of bee-keeping is captivating. We hope all its officers will labor not only to sustain its present reputation, but to increase its usefulness and extend its influence.

☞ Croffut has written a poem entitled, "Charlie, the Bees are Swarming." It is set to music, which is said to be very natural. A reviewer gives the following description, illustrating the methods of the untutored past:

"You can barely hear the distant hum of the bees, increasing louder and louder. It begins on the little violin; the bass viol strikes in when the bees get fairly at it; then several falsetto notes show where the hired man got stung; now come a dozen discordant sounds representing the drumming on old tin pans to make the bees alight; then softer notes as the hive is brought out and placed under the tree, followed by sudden shrieks from the penny whistle to the big French horn, as the baby, the hired girl, the dog, the farmer's wife and the farmer start for the camphor bottle and the woodshed."

☞ The "American Newspaper Directory" for 1880, published by Geo. P. Rowell & Co., of New York, is a complete and very useful work, invaluable alike to the general advertiser and the newspaper publisher. We acknowledge with thanks, a copy of this excellent book, from the publishers.

Beggars' Ticks as Bee Forage.

The enclosed plant is of spontaneous growth near our apiary. It attains 4 to 6 feet in height, is quite branching, commences to blossom in August, and to-day, notwithstanding several heavy frosts, bees are working vigorously on it, and apparently with satisfying results. We do not know where the seed came from, but think it may prove a valuable late honey plant; will test it thoroughly next season. Please name it.

Chicago, Oct. 13, 1880. C.

[The specimen sent is *Verbesina Virginica* (crownbeard), and is closely related to coreopsis and beggars' ticks. It has been sent before as a bee plant.—W. J. Beal.]

☞ On the 24th of last month, we delivered a lecture at the court house in Omaha on "Bee-Keeping a Science." A fierce thunder-storm coming up on that evening, made the audience small. But one lady dared to venture out, and that was "mine host," Mrs. Van Dorn. We had a pleasant visit with many Nebraska apiarists, and examined the many very creditable exhibits on the fair grounds, including the apiarian exhibit of Mr. Van Dorn, and the fruit of Mr. Hiram Craig, President of the Nebraska Bee-Keepers' Society.

☞ We notice that the *Country Gentleman* gleaned several articles from the last Bee Journal; of course, being an honorable and good journal, it gave due credit; but there are scores of agricultural papers that in nearly every issue copy articles and never think of giving credit. This illustrates the difference between honorable journalism and the fraudulent catch-penny kind.

☞ The insects sent for identification by I. R. Good, of Napanee, Ind., are the stinging-bugs, Phymata erosa, and are fully described and illustrated in the 4th and 5th editions of my Manual of the Apiary. From the numerous complaints which come to me, I judge this to be one of the worst pests to the bees.

A. J. Cook.

Another New Departure.

Twenty years ago the BEE JOURNAL was born, making its first appearance on January 1st, 1861. Its visits have been made to its patrons monthly so far, but on its twentieth birth-day it is to assume a more important position,and will from that day forward visit its patrons **Weekly.** This will be hailed with joy by many of its friends, who have long desired its more frequent visits.

We have concluded to publish the BEE JOURNAL weekly during 1881, in order to promptly accommodate our rapidly increasing correspondence, the volume of which is already too large for immediate publication, without neglecting other important departments. It will consist of 8 quarto pages of 4 columns each—32 columns in all. This will contain about double the amount of matter given during 1880. It will be issued each Wednesday, at **$2.00 a year.**

It will also be published on the *elastic plan*. Each number, complete in itself, will be fully indexed. Therefore, those who desire only to take a monthly, will be furnished the number published on the first Wednesday of each month, for **50 cents a year.**

Those wishing it semi-monthly, can have the numbers published on the first and third Wednesdays of each month, for **$1.00 a year.**

By this *elastic plan*, all may be accommodated who desire to invest 50 cents or more in a bee paper.

Any one who will get up a club of six will be entitled to an extra copy *free*, like the club sent.

Now that the JOURNAL is to be published weekly, we hope all its friends will exert themselves to make it a success. We have no doubt of the active co-operation of all our patrons.

We shall be exceedingly busy in December making the necessary arrangements for publishing the Weekly, and we shall esteem it a favor, if all who can will renew their subscriptions for next year at once, and thus save us much extra labor in taking out the names from the mail list, having to reset them, etc. Promptness in this will save us much trouble and time, when the latter will be very valuable to us.

☞ On page 520 a digest of Mr. Jones' speech on Cyprian Bees is given. Since that was printed we have received it in full, and will give it in our next issue.

We also have the essay of Rev. O. Clute, which was not received in time to read at the Convention; that will also appear in the December number.

☞ On page 474 of last month's BEE JOURNAL, Mr. J. C. Peters described a weed and asked its name. Prof. W. J. Beal informs us that it is *Ambrosia trifida.*

☞ The *Bee-Keepers' Guide*, edited by Mr. A. G. Hill, gives a brief report of the National Convention, but the *Guide* is in error as to the location of the next Convention. It says that it should have gone to the East. New York did not want it till 1882, at the time of the World's Fair in that city. Augusta, Ga., was proposed, but it was stated that it could not give the Society as good a turn-out as was desirable. Mr. Johnson, of Kentucky, said that a large majority of the bee-keepers were in the North, and hence, in order to disseminate knowledge among the Southern brethren, it was proper to have the next Convention in the South. All nominations were withdrawn in favor of Kentucky, and Lexington was selected as the next meeting-place of the Convention.

Those who subscribe now for 1881 will be furnished the remaining numbers of 1880 **free.** The sooner they subscribe, therefore, the more they will obtain for their money.

☞ We will hold a District Bee-Keepers' Convention at Anderson, Ind., on the 5th and 6th of November, 1880, and we extend a cordial invitation to all bee-keepers to attend. G. J. BROWN,
JAMES MOHAN,
A. J. DAVIS.

Anderson, Ind., Sept. 26, 1880.

Letter Drawer.

Honey for Winter.—The season has been unusually poor, my bees not averaging over 25 lbs. of comb honey. Each colony has about 30 lbs. to winter on; they are in 10-frame Langstroth hives, and are very strong; is that enough to winter on? There are very few bees in this county. What hive would you advise a beginner to use?

CHAS. M. GAYLORD.

Clyde, Kansas, Sept. 21, 1880.

[Unless the winter should be a very severe one, 30 lbs. of honey will answer. We think the Langstroth hive good as any.—ED.]

Italian Bees, etc.—This has not been a very good honey season in Western Pennsylvania; too cold and dry I think was the cause of the failure; the flowers yielded honey only a part of the time, and I noticed when they did it was during a few days of warm weather, when the bees gathered honey very fast. I have heard so much about the superiority of the Italian bee, that I will have to give my experience with them this season. I had 4 colonies of Italian bees in the spring, in good condition. From one of them I received about 22 lbs. of comb honey, from another about 5 lbs., and from the other two not one lb., while some of the black bees gave over 20 lbs. to the colony, and a colony of hybrids won the prize, by producing about 50 lbs. of surplus. My Italians appeared to be as strong as any I had. I was much disappointed, as I expected my Italians to do much the best. But I shall not condemn them yet, and will give them another trial. I cannot ignore the testimony of so many good men yet. OSMAN MCCARTY.

Zollarsville, Pa., Oct. 6, 1880.

Egg-Bound Queens, etc.—The JOURNAL regularly appears with its budget of reports of conventions and apiaries in every country in the world. These, I need not say, I read with interest. In Bruce we have any amount of white clover during the whole summer, also basswood and goldenrods in their season; so in this county bee pasturage is never a complete failure, although the last season was not so favorable as the previous one; yet the intelligent bee-keepers have had a good quantity of the very best honey, which they can easily dispose of at a good price. I was interested in the remarks made by some of your correspondents in the last number of the JOURNAL regarding egg-bound queens. I have had the misfortune of meeting one this season, exactly the same as Mr. Jeffrey describes. She was a young queen and a great beauty—yellow as gold—and was laying eggs for 2 or 3 weeks before her abdomen became diseased. As I knew of no remedy, I removed her to a nucleus, where I think she died. J. ANDERSON.

Tiverton, Canada, Oct. 9, 1880.

Mitchell's Hive.—I have been keeping bees for 20 years or more. I have 40 colonies; I had 20 natural swarms this season; a large one on the 1st inst., which I put in the Mitchell adjustable hive, giving them 5 frames of honey and young bees, and they are now doing well. Bees done well the early part of the season, gathering plenty of honey. I like Mitchell's hive on account of its cheapness. H. WHITE.

Woodbury, Ky., Sept. 20, 1880.

Aster.—Please give name of enclosed plant; it grows about 2½ feet high; blooms from Sept. 1st till quite late, and bees seem fond of it. What is its value for honey? Bees in this section have produced very little surplus, owing to dry weather in June, July and August; increase moderate. J. C. GRIFFITH.

College Mound, Mo., Oct. 4, 1880.

[The plant is an aster, and is good for fall honey.—ED.]

Cheap Bee-House.—Our bees done very well about 10 days the past season, while linden was in bloom. Strong colonies stored 2 to 4 lbs. per day during that time, having empty comb to store it in. Since then they have stored no surplus. Buckwheat did not seem to furnish much honey, though there was considerable of it. I extracted 610 lbs. of linden honey, and sold it in 2-lb. jars at 30 cents per jar. I had 35 colonies in the spring, and now have 50. I use a cheap bee-house, both in winter and summer, made as follows: 6 feet high, 5 wide, and as long as desired; side it up with rough barn siding, leaving 8 inches space at the bottom for the bees to pass out of the hive; also leave 8 inches space at the top of the hive for a window. Put in two rows of hives, one on each side, leaving room to pass between them. When you wish to operate on one row, you have (if not too high) the other for a seat. On the approach of winter fill up the spaces between the rows, and all around the hives, with dry straw; also put 6 inches of straw on the top, leaving the entrances to the hives open, and the bees will come out well in the

spring. I formerly wintered in the cellar with success, but I like the house and straw better, for it gives shelter and shade in summer, and saves moving the bees two or three times a year. The BEE JOURNAL is a regular and welcome visitor. A. S. EDSON.

Brooklyn, Mo., Oct. 12, 1880.

Why is it?—Mr. Wise of this place informs me that he has had 3 Italian queens recently destroyed by their own bees; one colony refused to accept another queen, and all refuse to rear any more queens—what ails them?

D. P. NORTON.

Council Grove, Kans., Sept. 27, 1880.

[Not knowing anything but bare facts given above, we can only conjecture the ailment: They may have wished to supersede their queens for cause, and had no facilities for rearing new ones, till the workers became too old for nurses; or they may have developed fertile workers; or the queens may have been unskillfully introduced; or there may have been other causes. Had a surface cage been used, and the queen imprisoned on a comb with larvæ and sealed brood, and given the colony, no trouble would have occurred in introducing.—ED.]

Hybrids.—This is my first year at rearing queens, and some of them are as pure as I ever saw, but some are mixed. I was of the opinion that an Italian queen mated with a black drone, would produce uniform bees half-and-half; but I find some in such hives looking as pure as any, and some as black as any black bee. Now, I want to know, is that the true nature of them, or will the bees be uniform? I have 33 colonies, and no more honey than will be required to winter on. H. M. WILLIAMS.

Bowden, Ga., Sept., 11, 1880.

[You were wrong; the bees will not be uniform, but will be all shades. So, also, will be the queen progeny.—ED.]

Alfalfa.—Please give name of enclosed; I obtained it in Ohio. The seeds grow in a small, spiral-shaped pod, and were brought from South America to Ohio. Is it a good honey plant?

O. O. POPPLETON.

Williamstown, Iowa, Oct. 12, 1880.

[The plant sent is lucerne or alfalfa (*medirago sativa*). It is a well-known ee plant.—W. J. BEAL.]

Moving Bees, etc.—Mr. O. B. Curtis' article on clubbing rates, I think, is a very important suggestion, and am glad that you will take a stand against it. If all publishers would adopt this plan it would be better for all good papers and journals. I have about 20 colonies to go into winter quarters with, and would like to move them about 25 yards from the place where they now are, which is in a garden very close to where I have plants, etc., and in certain seasons they are troublesome to the laborers when they are damp with perspiration, and when using a hoe they seem to think they are fighting them, and stinging is the result. They are now shaded with boards; will it be best to put them under a large tree, or where there are no trees? When is the best time to move them, now or in the spring? How do you think the Simpson honey plant, that Mr. Stewart, of Kentucky, speaks of, will do in this climate? Success to the BEE JOURNAL. R. G. NICHOLSON.

Hainesville, Md., Oct., 1880.

[Bees can be moved at any season of the year with safety, if a slanting board or bush be placed over the entrance to cause the bees to re-mark their location. The Simpson honey plant will undoubtedly do for Maryland. A partial shade is better than too much.—ED.]

Albinos.—I received from D. A. Pike, July 9th, an albino queen, which proved to be very prolific, her bees showing the three rows of white hairs after the yellow band, making them beautiful to look at. I had a good opportunity to test her progeny, as I had in the same yard two good Italian queens, one light and the other dark. The albinos gathered more honey, and were more easily handled, owing to their gentleness.

N. J. TEIGHOR.

Carlisle, Iowa, Sept. 24, 1880.

Southern Welcome.—I was very much pleased with the late National Convention at Cincinnati, and consider myself well paid for the time and money I spent in attending it. As Lexington is the place for the next meeting, I hope it will be largely attended; we shall be pleased to meet our Northern brethren on Southern soil again, and will give them a genuine, hearty, old Southern welcome. No place South could be more desirable than the one selected, and no people in the world are more hospitable than the genuine old Kentuckian, and especially in the region of Lexington. J. M. DAVIS.

Spring Hill, Tenn., Oct. 15, 1880.

Correspondence.

For the American Bee Journal.

My Honey Report for 1880.

G. M. DOOLITTLE.

The season of 1880 opened a little earlier than usual, bees getting pollen quite freely as early as April 17, while on May 12th the willows furnished a little honey, sufficient to start brood-rearing nicely; so the bees were in a prosperous condition to take advantage of apple blossoms.

May 22d found our bees rushing out of their hives bright and early to get the nectar which was being secreted in the apple blossoms quite plentifully. The combs in our hives soon began to show the result by the lengthened appearance of the cells at the tops of the frames; lengthened with new white wax, which always does the eyes of an apiarist good to behold. After about 4 days a rain set in, terminating with cold, which put a stop to the operations of the bees till the blossoms had fallen off. Our bees, however, had collected on an average about 10 lbs. to the colony, so we were perfectly satisfied with the result, although we should have been more pleased if nothing had occurred to hinder their gathering honey till apple bloom had gone. When we had our bees prepared for the season's operations we found we had 70 colonies to begin the season with, all of which were in fine condition June 10th, to take advantage of a yield from clover, if such a yield could have existed. But alas, our open winter had made havoc with the clover, the most of which was found standing on their heads, with their roots turned toward the sky, upon the approach of spring. Still, along the road-side and in old pastures of long standing there was considerable left that had withstood the constant determination of Jack frost to heave them out of the ground, and upon this we placed our hopes of a living, at least, for our bees, and perhaps a small surplus. But we were destined to disappointment, for June 18th found us feeding our bees to keep them from starving. On June 22d the blossoms of the whitewood secreted enough honey so we ceased to feed, when some of our most enterprising Italians began to swarm.

Basswood opened 10 days earlier than usual, and 7 days sooner than we ever knew it before; so that July 1st found the bees going to the woods in countless numbers. Yet the yield at no time was great. Our best colony for extracted honey gave us a yield of only 10 lbs. per day, against 22 lbs. per day in 1877. On July 13th came the close of basswood, after which our bees hardly obtained a living from the few scattering flowers, such as catnip, motherwort, etc., which blossomed in waste places and along the fences. Buckwheat opened Aug. 12th, and we hoped for a yield from that source, as we had not secured a pound of surplus from buckwheat since 1877, and surely it ought to yield honey one year in three at least. Disappointment was again our lot, for although there was 50 acres within the range of our bees' flight, still they obtained scarcely more than enough to supply the demands of the brood. Thus our season for honey closed with no surplus except from basswood. As a result, we again have to report a poor season, yet not a discouraging one by any means. We have taken, in comb honey, 3,532 lbs., and 812 lbs. of extracted, or 4,344 lbs. in all. This gives us an average of a little over 62 lbs. for each colony in the spring. Our bees have increased from 70 to 112 colonies, in fair condition for winter.

Last year we gave as our average for the past 7 years, 90 lbs. per colony, and were in hopes, by having a good season this year, we might bring it up to an even 100 lbs. for an 8 years average; but we have gone the wrong way, and so have to chronicle as an average yield per colony, for the past 8 years, 86¾ lbs, nine-tenths of which has been box honey.

Now, there are three requisites toward securing a large yield of honey in a good season; a fair yield in a medium to poor season, and a little in a very poor season. First and most important is the man or apiarist. The man that knows just when and how to do a thing so that everything is done just at the right time, and in the right place, and also knowing how to use, and having all the modern appliances for successful honey raising, will rarely have cause to complain of his poor success.

Second. A race of industrious bees, whose queens shall keep the combs in the brood chamber well occupied with brood, at all times, till the honey harvest closes for the season. To this end each one should breed only from queens that give the best results as producing honey-gatherers in their progeny.

Third. A hive that is adapted to the natural instincts of the bee, and also easy of operation for the bee-keeper. For box honey, the boxes should come close to the brood, so no space of heavy wood or sealed stores intervene between the surplus arrangement and the brood;

and for extracting, a hive containing at least 3,500 cubic inches of space, all in one apartment. The idea is this: If our bees and ourselves are always in readiness for a yield of honey, and there are but 4 or 5 days' yield in the whole season, we can secure something even then; but if not in readiness, the 4 or 5 days will pass and we shall get nothing.

Let it not be understood that any one thinks that bees can store honey when none is secreted in the flowers, let them blossom ever so profusely; but be it understood, that when there is a yield, if only of short duration, good results can be obtained by the diligent.

Borodino, N. Y., October, 1880.

For the American Bee Journal.

Paper Separators, Feeding Back,, etc.

J. E. MOORE.

EDITOR JOURNAL: I suppose you have concluded, from my delay, that the bees have been "chewing their cud" on the paper separators, mention of which I made to you some time ago. Well, when one has 150 colonies of bees to look after, besides 25 nuclei, and does all the work himself, there is not much spare time on his hands, if the bees have the care they should have. Besides, as you will see by samples, I have branched this out on comb foundation.

Well, I have thoroughly tested the separators, as made like the sample, and as the bees have not injured one of them, I pronounce it a success. I commenced experimenting with paper for separators in 1871, but have never been able to find anything that the bees would not cut out, until I coated the paper with shellac. The foundation is made on lighter board, prepared in the same way. I made a crude bath for dipping, and having to dip at the side of the can to avoid the lumps of wax, did not get the paper coated the same thickness on both sides. I drove to York (making a trip of 44 miles), where, through the kindness of Messrs. Rians & Van Eaton, the foundation was made. I only succeeded in getting one good sample on the wrapping paper. As the machine does not seem to injure the paper at the base of the cell, I think this must be an improvement on wood as made by Everhard. Mr. Rians thought it could be made better on a press machine than with rolls.

While glassing some honey the question occurred to me, why not have the comb built the full thickness of the section, as, in using paper caps I have the glass lap the edges of the box? So I soon put the thought into effect by cutting down 12 boxes 5x6x2, to 5x5x2, and fastened strips $\frac{1}{8}$ inch thick on both sides of the separators where they come between the edges of the boxes, as shown by the sample separator.

You have the result in the sample honey, and as the comb is $\frac{1}{4}$ inch thicker, this 5x5x2 box glasses up as much as the 5x6x2 box, where separators are used against the edges of the boxes. The 12 boxes glassed up 25 lbs.

By this plan I get as much honey in 50 cubic inches as in 60 the old way, and as it will take 143 more boxes 5x5x2 to glass a ton of honey when separators are used the usual way. The saving would be the cost (less expense of caps) of 143 boxes, glass, separators, foundation, crates, hive room, and labor of handling the same, also capping of the combs by the bees; this also gives the consumer about $\frac{1}{4}$ lb. more honey to the box than any other method of glassing. We thought we had our honey racks about right last spring, but as we shall hereafter use boxes no larger than 5x5x2, we must fix the racks all over for next season's use. A better plan to fix strips on separators (than shown in sample) is to cut strips $\frac{1}{8}$ inch square, and slit them down to within $\frac{1}{2}$ inch of one end with a fine saw, so as to slip them on the separator clothes-pin fashion.

We shall discard tin, and use paper altogether for separators next season.

With the exception of the 12 boxes with separators, arranged so that the combs would be built full thickness of the box, the sample box before you being one of them, we have not fed back only to boxes that were from $\frac{3}{4}$ to not quite sealed over. We made our colonies this season on the nucleus plan, and as a good many of them were without laying queens just in basswood time, we extracted about 200 lbs. from them so as to give room for the queens. This we fed back to finish out the boxes. We fed to 6 hives, and had 425 boxes sealed over.

We were not fixed to feed when the basswood flow of honey ceased, so that, although the honey fed back was very white, the color, as you will see by the sample, is of a darker shade. I suppose this is caused by honey stored from wild flowers. As I kept no account of weight of the boxes when returned to the hives, or the amount fed, I could, of course, give no opinion as to the profit of feeding back.

If the apiarist feeds back *honey* produced in *his own* apiary, I see no objec-

tion to his doing so; but I do doubt its being as good color as when stored from the flowers.

We commenced the season with 84 colonies, the bees doing well early in the season, so that at the close of the fruit blossoms they were in prime order, and showed more signs of swarming about that time than at any subsequent period. The clover flow was very light, and the basswood very heavy. This is about all the surplus we get this year, as the red clover is an entire failure, so that our surplus is hardly ½ of a crop, being not over 2,900 lbs. of box honey, and 100 lbs. of extracted. I expect to winter about 150 colonies.

On account of the failure of red clover, the farmers are trying to get a substitute in its place until the clover maggot is starved out. Some are trying alfalfa clover, and others the southern pea. If any of your readers are posted as to the honey-producing qualities of either of these plants, I should like to have their opinion.

Byron, N. Y., Sept. 20, 1880.

Reports of Honey Crop.

I have 74 colonies in moderate condition; had no increase by swarming, and no honey worth speaking of; have sold a few Italian queens and hives.

J. H. THORNBURG.

Winchester, Ind,, Sept. 21, 1880.

Commenced the season of 1880 with 114 colonies; have increased to 164; reared 100 Italian queens; took 4,000 lbs. extracted and 1,400 lbs. of comb honey. C. M. WOOLVER.

Hallsville, N. Y.. Sept. 18, 1880.

This season has been a poor one for honey. I have 350 colonies in good condition. I do not expect any fall honey. My home apiary of 140 colonies are all pure Italians, affording me an excellent opportunity to rear choice queens.

L. LINDSLEY, JR.

Waterloo, La., Sept. 23, 1880.

I have 12 colonies in Langstroth hives; poor honey crop this season; only 60 lbs. All have enough to winter on. I intend getting packing boxes to put over each hive, and fill it with shavings or leaves. There are between 50 and 60 colonies in this vicinity. One man took 40 lbs. from 26 colonies. I would have taken 150 lbs., but received my extractor too late. The BEE JOURNAL is acceptable.

JAMES SHORE.

Germantown, Pa., Oct. 7, 1880.

From 60 colonies in the spring I have obtained 1,700 lbs. of comb honey in sections, and 800 lbs. of extracted—mostly white—and 50 per cent. increase. Loss in wintering in 8 years, 5 per cent.

W. H. FLETCHER.

Ssuk Rapids, Minn., Oct. 5, 1880.

I think the average amount of honey stored this season, in this vicinity, is less than ½ the usual amount. I have in my apiary 60 colonies, from which I have taken a little over 1,500 lbs., as follows: From 30 colonies of Italians, 330 lbs.; from 7 colonies hybrids, 161 lbs.; from 23 colonies of blacks, 1,015 lbs.; total, 1,506 lbs. This I consider about taree-fifths of an average. There was every prospect for a good yield from goldenrod, but a cold rain set in a few days after bees commenced to work on it; consequently there was but little surplus stored. W. H. GIBBS.

Clinton, Mass., Oct. 6, 1880.

Conventions.

Kentucky State Bee-Keepers' Society.

A number of bee-keepers met at the Press room of the Exposition, Sept. 28, pursuant to the call published in the papers. Mr. Thomas G. Newman, of Chicago, being present, w s made temporary Chairman, and I. B. Nall, Secretary.

On motion of Dr. N. P. Allen, of Warren county, Messrs. W, T. Sears, of Warren county, B. B. Barnam, of Louisville, and William Wilhamson, of Lexington, were appointed a committee to report on constitution and by-laws.

On motion, Dr. L. E. Brown and Dr. E. Drane, of Eminence, were added to the committee. After consultation, the committee reported a constitution and by-laws, which were adopted.

The following were duly elected as the officers for the ensuing year: President, Dr. N. P. Allen. Secretary, William Williamson. Treasurer, I. B. Nall. County Vice Presidents—Dr. L. E. Brown, Henry; B. B. Barnum, Jefferson; Dr. E. Drane, Shelby; H. C. Hersperger, Jessamine; W. T. Sears, Warren; L. N. Greer, Barren; John W. Bean, Clark; L. T. Moberly, Hardin; A. G. Davis, Cumberland; Dr. W. Van Antwerp, Montgomery; J. M. Holman, Fayette; J. L. Garvin, Hart; Samuel Collins, Spencer; Jas. Johnson, Todd; Dr. S. C. Mitchell, Bourbon; J. W. Egbert, Mercer; Willis Adams, Rockcastle; T. W. Shelton, Logan; James Erwin, Allen; Wm. Kelley, Oldham; Gen.

D. L. Adair, Hancock; J. W. Bagby, Pendleton.

Mr. Barnum nominated Mr. W. D. Aydelotte, of New Albany, Ind., as an honorary member of the Association, and he was duly elected.

Dr. Brown moved that Mr. Thomas G. Newman be made an honorary member of this Association. Carried.

Mr. Barnum nominated Mr. G. A. Vincent, of New Orleans, to be an honorary member. Carried.

On motion, the Treasurer was authorized to purchase books for the Secretary's and Treasurer's use.

Those present then paid the membership fee, and were enrolled.

It was moved and carried, that the annual meetings of the Association be held in the city of Louisville, Ky., on the second Wednesday in October, in each year, at the Exposition building.

On motion, the thanks of the Association were tendered to Col. Maginness, Secretary of the Exposition, for courtesies; also to Col. Bennett H. Young, President of the Polytechnic Society, and Miss Pollard, for use of hall in Library building free of charge.

Dr. Drane suggested that each Vice President call a meeting in his county, and organize a local society as auxiliary to the State Society.

The Society then adjourned to Library Hall, where Mr. Thomas G. Newman delivered a very interesting lecture, and for which a vote of thanks was given him. The Association then adjourned.

N. P. Allen, M. D., *Pres.*

W. Williamson, *Sec.*

N. W. Missouri and E. Kansas.

The bee-keepers of Northwest Missouri and Eastern Kansas perfected their organization at St. Joseph, Mo., on Sept. 12, 1880, by adopting a constitution and by-laws and electing the following officers for the ensuing year:

President—D. G. Parker; Secretary—R. S. Musser, St. Joseph, Mo; Treasurer—B. F. Colt; Vice Presidents—J. P. Rogers, Holt county, Mo.; F. C. Frost, Clinton county; John Merlinn, Andrew county; Dr. H. Johns, Caldwell county; J. Needles, Gentry county; J. Rhodes, Atchison county; J. A. Matney, Buchanan county; Jesse Crall, Atchison, Kansas; G. Lanker, Garay City, Kans.

The following, among other subjects, were selected to be discussed at the next meeting, to be held October 13, 1880, at St. Joseph court house: "The location of apiaries;" "The best mode of wintering bees;" "The moth."

We call the attention of those of our readers who are interested in bee-cul- to the above organization. The bee men of the northwest should connect themselves with this Association at once. There are a great many men in Western Missouri and Eastern Kansas extensively engaged in this business, and they are interested in the success of such an organization.

The good to result from such an association is this: To learn the experience of others and to give your own experience; to learn what plants, shrubs, etc., to plant and cultivate, which will not only be ornamental, but useful as a honey producer. There is not a farm in the northwest but can realize more than enough from honey to pay the taxes, with but little expense. Farmers must learn something about the business to make it a success, and this can be done only by attending the meetings of bee associations and hearing the various subjects discussed which may come before the association.

One great drawback to this branch of industry has been the price of honey. The condition in which honey is brought to market is the sole cause. Those who attended our exposition and visited the apiarian department, saw what a fine exhibit of honey was made by Mr. D. G. Parker. Honey in this shape (1 and 2 lb. sections) will bring double the price it will when brought to market in jars, tubs, or in comb in large boxes, and at a mere nominal additional cost.

At the meeting to be held Oct. 13, 1880, the subjects selected for discussion are such as all bee men should be posted on in the fall of the year, so that when spring comes they will have strong and healthy bees ready for work. It is an admitted fact that the best honey in the west is produced in this section of the Missouri valley. The honey keeps longer and is free from acids, which causes honey to sour, and this is due alone to the foliage peculiar to this section of country.

Missouri was the second State in the Union, in 1870, in the production of honey. We publish below, for the information of our readers, the surplus production of some of the counties in Missouri, tributary to St. Joseph, in 1870, as shown by the census that year:

Atchison, 10,608 lbs.; Andrew, 16,183; Buchanan, 7,626; Caldwell, 21,340; Carroll, 29,812; Clinton, 18,891; DeKalb, 10,627; Daviess, 25,052; Gentry, 23,480; Harrison, 46,924; Livingston, 17,331; Holt, 15,670; Nodaway, 15,335; Platte, 12,044; Worth, 17,000.

No doubt the census of 1880 will show, when published, that the production has increased four-fold, which will yield to

the above counties, at 20cts. per pound, not less than $150,000 to $200,000, provided it is put up in shape for market.—*Saturday Democrat*, St. Joseph, Mo.

Canadian Bee-Keepers' Convention.

On Tuesday afternoon, 14th inst., about 60 bee-keepers, representing all sections of the Provinces, and several from the United States and Manitoba, met in the City Hall, Torono, Mr. R. McKnight, of Owen Sound, in the chair, and Mr. Greenslade, of Toronto, Secretary.

The Chairman, after briefly acknowledging the honor conferred upon him, referred briefly to the necessity for a Canadian Bee-keepers' Association, through which the freest interchange of thought and experience in reference to this important industry could be had. There was sufficient indication given of the capabilities of honey production in Ontario in the case of Mr. Jones, whose apiary yielded 70,000 pounds of honey per annum, gathered from a single township. He hoped they would endeavor to get as much practical information as soon as possible during the meetings of the Convention pertaining to apiculture and the marketing of bee products.

On motion, a committee was appointed to draft a constitution for the Association, also a committee to select subjects for discussion.

The Chairman said that most of the gentlemen present, like himself, had come to sit at the feet of those who were able to impart instructions in bee-keeping. He was glad to see that they had several old and experienced bee-keepers present, and a relation of their successes and failures would be of benefit. He called on Mr. Jones, whose name was widely known as one of the most successful bee-keepers in America, and to whose efforts they were mainly indebted for the getting up the Convention, to address the meeting.

Mr. Jones, in response, said he had not expected to be called upon to address the Convention at any length, and he would only offer a few remarks on the present styles of bee-keeping. He was very sorry to see that the old modes were still practiced by a great many whom, he hoped, would soon abandon them for something more sensible. It would hardly be necessary for him to say that the ordinary plan of bee-keeping in box hives and killing with brimstone was a cruel one. He found in the East, where the people were very much behind in other respects, that they were ahead in this. Instead of using the brimstone pit they had long clay cylinders, and when the bees filled a cylinder they were driven to one end by the use of smoke till the honey was extracted. He thought however, that our modes of bee-keeping had improved so much that Canada stood second to no other country in the world in this respect. Canada offered better inducements to bee-keepers than countries farther south, because in warmer climates the honey was poorer in quality than that collected in a cooler climate. He then described his methods of in and out-door wintering, feeding, etc.

Rev. W. F. Clarke, said that wintering was the great difficulty in Canadian bee-keeping. He said a most interesting subject at the Convention in Chicago was the question whether the tongue of the honey bee could be elongated, whether they could get a race of bees with tongues sufficiently long to get at the red clover, and they had a very interesting series of experiments on this point from Prof. Cook, of the Michigan Agricultural College, who was perhaps the most scientific bee-keeper of the age. It was generally believed, however, that there were races of bees in advance of Italians in this respect, and one of these especially was the Cyprian bee, of which Mr. Jones, during his recent exploring tour, had imported a number. The quicker the Canadian bee-keepers marched right into the forefront in this respect the better, and Canada was one of the best honey-producing countries in the earth.

At the suggestion of Mr. Clarke it was decided to hold an open-air meeting in the bee department on the Exhibition grounds this afternoon, at 5 o'clock, when Mr. Jones will give a practical illustration of his methods.

The meeting then adjourned, to meet at 7:30 p. m.

EVENING SESSION.

The Committee on Constitution reported and the Constitution as reported was adopted.

The Committee on Subjects for Discussion, reported. "The old system of bee-keeping—does it pay?" was decided by a ruling of the chair in the negative, united with the hope that the bee-keepers of Canada would abandon the old style.

The question of "Artificial vs. Natural Swarming" was discussed at considerable length, the contest lying principally between Mr. J. B. Hall, of Woodstock, who favored natural swarming in some cases, and Mr. A. J. Mc Kay, of Underwood, who believed that wherever practicable the artificial system was preferable. Mr. D. A. Jones,

of Beeton, Dr. Shaver, of Stratford, and other gentlemen in the course of the discussion, gave their opinions backed by relations of their own experience, the preponderance of opinion being evidently in favor of artificial swarming, save under exceptional circumstances.

Mr. Jones was asked "How far apart would you keep the hives on one farm?" Mr. Jones replied that the distance between his hives in the row was 3 feet, and between the rows 6 feet.

Question.—Have you any choice in the direction in which your hives face?

Mr. Jones answered that it might be a notion of his, but he preferred the hives facing east and south.

Mr. Hall, I think it is a notion. My hives faced in every direction. I have noticed no difference.

Mr. McKay claimed that the bees in the hive on which the sun shone early got to work early, and that was an advantage.

Several important and interesting subjects were discussed. The best method of "breeding pure queens" was considered at some length, as was also "the province and value of drones in breeding."

On the subject, "The best method of marketing honey," Mr. D. A. Jones gave some information calculated to be of use to bee-keepers and of no little interest to the general public. He stated that while in England he had made particular inquires as to the means of marketing honey. He had been told by one firm that they would gladly give 22c. per pound for 100 tons of extracted honey. He trusted that they would be able to so arrange that they could send their honey direct to the dealer in England, and he believed that the Association could be so well organized, and become so well known, that the English dealer would order direct from them. If this was done, he had no doubt that they could find a market at good prices for all the honey they could produce. He believed, however, that if the honey was put up in small and appropriate packages, held until the market was ready for it, and judiciously distributed throughout the country, there was no fear that within the next ten years they would raise enough honey to overstock the market of Canada.

The Association then proceeded to the election of their officers, with the following results:—President, D. A. Jones, Beeton; Dr. Shaver, Stratford, 1st Vice President; Hon. Lewis Wallbridge, Belleville, 2nd Vice President; R. McKnight, Owen Sound, Secretary and Treasurer. F. Webster, Toronto; Rev. W. F. Clarke, Listowel; J. G. A. Wallace, Brighton; J. B. Hall, Dr. Duncan, Embro, Executive Committee.

The duty of filling up the list of county representatives was left to the Executive Committee, as was also the duty of drafting a set of by-laws.

Mr. D. A. Jones and Rev. W. F. Clarke were appointed delegates of the Association to the National Bee-Keepers' Convention of America, to be held in Cincinnati.

North American Bee-Keepers.

ELEVENTH ANNUAL CONVENTION.

The Eleventh Annual Convention of the North American Bee-Keepers' Society, met in Bellevue House Hall, Cincinnati, Ohio, on Wednesday, Sept. 28, 1880, at 10 a.m., President Thomas G. Newman in the chair.

The Secretary, Dr. E. Parmly, read the minutes of proceedings of the 10th Annual Convention, which were approved.

The roll of membership of last year was read, after which the payment of annual membership fee and distribution of badges took place.

The Secretary read the following correspondence, which was ordered placed on file:

Abbot's Hill, England, Aug. 9, 1880.

PRESIDENT NEWMAN:

MY DEAR SIR.—I am very much obliged for your kind and cordial invitation to attend your annual National Convention at Cincinnati, on Sept. 29th, 30th and Oct. 1st. I should have had great pleasure in accepting it and in being present, had I not consented to act as secretary of the Hemel Hempstead Poultry Show, which falls on the two last days of September, and which I must remain at home to arrange. We have just brought our annual show at South Kensington to a conclusion. It was a very successful one and remained open for a week.

Mrs. Peel and all the members of my family beg to be most kindly remembered to you, and I remain yours very truly,

HERBERT R. PEEL.

Nyon, Suisse, Aug. 27, 1880.

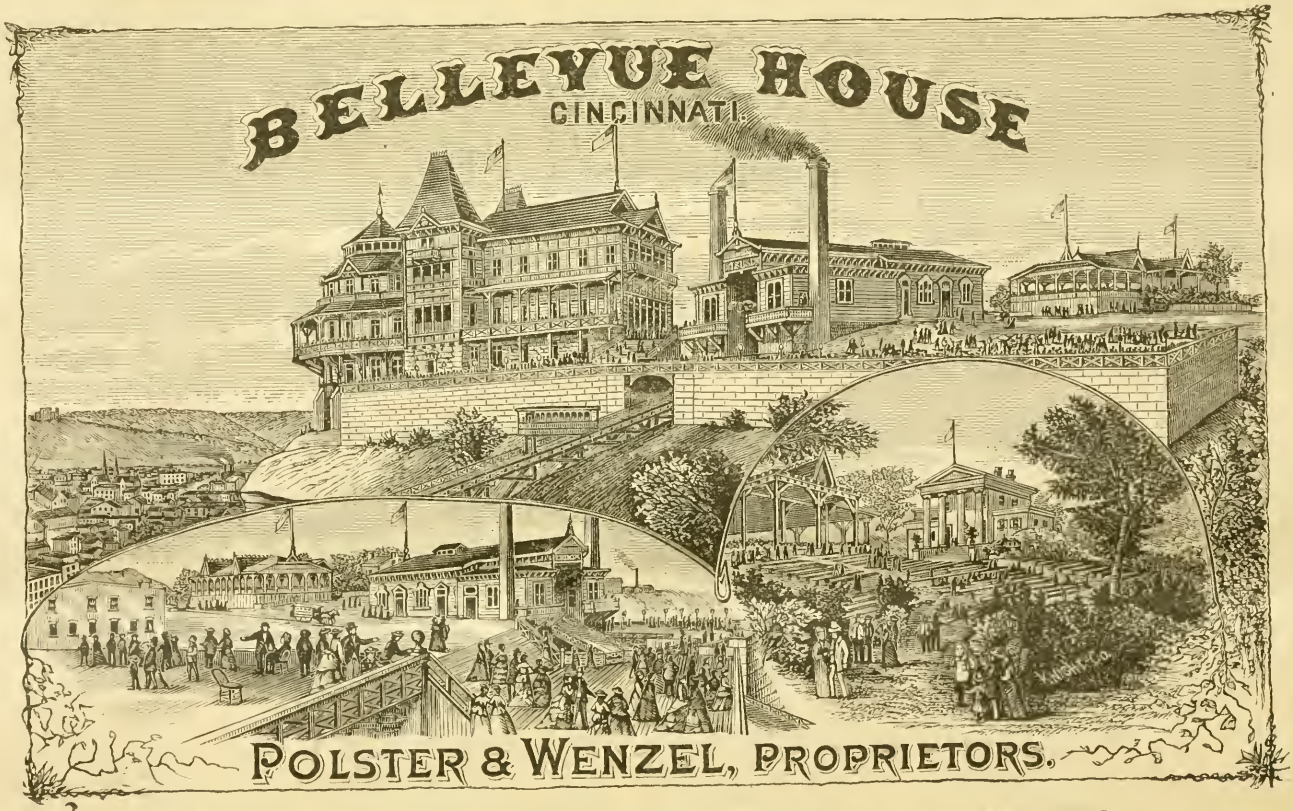
To the Hon. T. G. Newman, President of the North American Bee-Keepers' Society.

DEAR COLLEAGUE AND FRIEND:—I have received your letter of July 24th, by which you do us the honor to invite my wife and myself, also my colleagues M. C. de Ribeaucourt, President of the Romande Society, and M. J. Jeker, editor of the Schweizerische *Bienen Zeitung*, to attend your Convention at Cincinnati, Ohio.

I have communicated your amiable invitation to my colleagues; they have requested me to inform you that they appreciate your kind invitation, but on account of their duties as pastors, and for other reasons, they cannot absent themselves; and my wife and

A VIEW OF THE CELEBRATED HILL-TOP HOUSE.

SHOWING THE RAILROAD FROM THE CITY TO THE HILL-TOP,



WITH THE PAVILION, AT CINCINNATI, OHIO.

WHERE THE NATIONAL BEE-KEEPERS' CONVENTION OF 1880 WAS HELD.

myself regret that we cannot spare the time to undertake such a long voyage.

Your invitation is certainly very attractive, and nothing would have given us more pleasure than to attend one of your grand and *celebrated* annual meetings, and to make the acquaintance of so many eminent bee-keepers, whose reputation we already know, and whose works and writings we study with interest and advantage.

It would have been a great pleasure to us to see you again, to make the acquaintance of your family, and to spend a few more pleasant hours together, like those we spent with you, while you were at Nyon, last year; but the undertaking of so long a journey is too much for us, and, unfortunately, we shall have to confine ourselves to send you our thanks for the invitation, and at the same time our deep regrets that we cannot attend.

Please accept our congratulations for the way you fulfill the double duties of editor of the AMERICAN BEE JOURNAL and of President of the National Bee-Keepers' Association. Accept, also, our best wishes for the success of the Convention whose proceedings interest us so much.

Accept, dear colleague and friend, the expression of the most affectionate feelings of

Yours most devotedly,

ED. BERTRAND.

Mr. Williamson, of Kentucky, offered the following resolution, which was unanimously adopted:

Resolved, by the North American Bee-Keepers' Society in Convention assembled, That we return our thanks to Rev. H. R. Peel, England, and Mons. E. Bertrand, Nyon, Suisse, for the fraternal feelings expressed by them towards the bee-keepers of North America.

The Secretary read a fraternal and congratulatory letter from Vice President S. C. Dodge, Chattanooga, Tenn., inviting the Convention to fix upon Chattanooga as its next place of meeting.

President Newman delivered the following

Annual Address.

My Friends and Co-Laborers: Bound together as we are with fraternal ties, made strong by our common interest in bees and honey, we may well greet each other with our pleasantest smile and heartiest congratulation. As we get to know and understand one another better, our ties of friendship will grow stronger and stronger. It is so pleasant to meet with old faces as well as to make new acquaintances.

This is the first meeting of the National Society, for many long years, that has been held near enough to the borders of our southern brethren for them to participate with us in its pleasant sessions and interesting discussions—and I am glad to see so many apiarists from the South to welcome and greet their brethern from the North. Let all unite to make this one of the most profitable sessions of the National Society.

We have come from the East and West, from the North and the South, not only to have a pleasant re-union, but to discuss matters of interest to those present, as well as to the thousands who are waiting with great anxiety to see the record of our sayings and doings. While giving the strongest arguments, let us be careful not to use words that will wound the feelings of those who may think differently from us, Aye, "let us spread liberally the cement of brotherly love and affection—that cement which unites us into a Society of friends," having but one object—and that the furtherance of the science and art of progressive apiculture.

At the last meeting of the National Society, it will be remembered, I made this remark: "We should agree upon a price that will pay for production, and at the same time not retard consumption, and then all should be guided by this, thus aiding to establish a regular market price for honey, the same as is obtained for wheat, corn and oats." It is certain that "in union there is strength." That which in an individual capacity none of us could accomplish, is easily done by a strong, united and influential body. As an illustration, the last meeting of this Society appointed a committee to wait on the postal authorities to get a reversal of the order prohibiting the use of the mails for transporting queen bees, and though many individuals had often petitioned that functionary, it was not accomplished until this body took the matter in hand. We are now in the enjoyment of the result of our united action in this particular.

I have earnestly labored for some time to bring about such a unity of feeling and action, that, as a body, this Society might regulate the prices for honey, based, of course, upon the "supply and demand," and the cost of production. I am much gratified to see that each year some point is gained in this direction. In this manner only can we ever make honey a staple product, and have its marketable value alike in every locality, the cost of transportation only excepted. Illustrations are numerous, where prices obtained for honey of the same quality vary 5 to 10c. per lb. in places only a few miles distant. It is never thus with grain, meat nor dairy products.

To act understandingly, we must ascertain the extent of the crop, and by considering it in connection with the demand, we can determine the value, and if we can but combine, *maintain* the price so established.

This season, facts and figures from all parts of the country, indicate that the entire crop for 1880 will be but one-half of the usual supply.

In Arkansas, Kentucky, Minnesota, Mississippi, Tennessee and Vermont, there is about an average yield.

In California, Michigan, New York and Virginia, ⅔ of the usual crop.

In Alabama, Canada, Missouri and Ohio, one-half.

In Connecticut, Iowa, Louisiana, Maine and Pennsylvania, one-third.

In Indiana, Georgia, Kansas, Nebraska and Texas, one-fourth.

In Illinois and Wisconsin, much less than one-fourth of the usual crop.

The season has been unfortunate for

honey production on account of the unpropitious weather. Bees were strong in numbers, and active in disposition, but it was all in vain—the nectar was absent from the bloom; they could not gather that which did not exist. But are we disheartened? No, certainly not; we may feel somewhat discouraged, but are in no mood to give up. Does the loss of a crop of grain dispirit the farmer? Does a season of cattle plague cause the herdsman to give up the rearing of cattle? Does the failure of a crop of fruit result in the abandonment of fruit culture? Or, does the burning of a city cause its permanent desolation?

No! Such reverses only stimulate the progressive and undaunted man to further dilligence and more dauntless courage. So we, who have suffered a partial failure, even for the second time, will, with courage enhanced by our reverses, labor even more zealously for "the years of plenty" yet to come, when thousands of tons of nature's sweetest nectar will be gathered by our bees and all will rejoice over a magnficent yield and a golden harvest, filling our markets with honey and our pockets with money.

Several of the Vice Presidents having resigned, I have appointed others to fill the vacancies, as provided by the Constitution.

The subjects to come before this Convention are varied and momentous, and I trust, we shall exercise our best and most matured judgment. As the programme issued by the Executive Committee is in your hands it is unnecessary for me further to enumerate. The general prosperity of the Society is a subject for congratulation. It is steadily increasing in numbers and influence, and each successive meeting has been adjudged better than its predecessor; I therefore, trust this will eclipse the meeting held at Chicago, a year since.

In conclusion allow me to thank you for the honor of being twice unanimously elected as your presiding officer. I have endeavored to serve you faithfully, and have left no work undone, that, according to my judgment, would advance the interests of this Society and be advantageous to the apiarists of America. To make this Society national in its character, and world-wide in its influence has been my aim. How far this has been accomplished I leave it to you to determine. When my successor is elected I shall be most happy to welcome him to this chair, with all its honors and responsibilities.

Permit me to add that I have been earnestly solicited by many members of this Society to consent to serve as your President for the coming year. I fully appreciate these well-meant solicitations but, believing that the prosperity of the Society will be enhanced by the election of some one else to that office, I must *positively decline* to accept it. I shall, however, give the Society my cordial support, and assist it by every means in my power to become even more prosperous and useful than heretofore. Again allow me to thank you for all the honors you have conferred upon me, and to express the hope that this meeting will be both interesting and profitable to you all.

The Secretary and Treasurer's reports were read and approved.

The Executive Committee made the following report, which was adopted:

The Executive Committee would respectfully report that they have, in accordance with the instructions given at the last meeting, prepared badges for the use of members to designate them from others. They have also prepared letter heads, programmes and membership tickets, and made all necessary arrangements for the present meeting, and hope that it will be, in practical value, second to no Convention ever held by this Society. In reference to the letter headings we caused to be printed for the use of the officers of this association, Dr. W. W. Hipolite, Vice President for Arkansas, remarks as follows:

"Not long since I received some printed letter heads for the use of Vice Presidents of the National Bee-Keepers' Association, and find them exceedingly well gotten up. I think the person who originated the idea is entitled to the thanks of the Association. When communicating with the officers of our State Fair or other Associations, or with others in the interests of our Society, it looks as though we had an existence as such, and not merely in name."

Vice Presidents' Reports:

S. C. Dodge, for Tennessee, under date of Sept. 25, reports the season to have been a poor and unprofitable one for honey-producers and queen-breeders in his State. He has been encouraged to do but little to advance the cause of apiculture in his section, and has made no attempt at the organization of societies, etc. The winter of 1879–80 was very mild, and bees came through splendidly; fruit and white clover blossomed everywhere, but the season was so wet in the spring that the flowers secreted very little nectar, and all summer long the bees have barely had enough to keep up moderate breeding, with little or no swarming or surplus. At present the golden rods are in bloom and the white aster is just beginning to open. These are our main reliance for winter supplies. I feel warranted in predicting heavy losses during the coming winter, especially with those bee-keepers who let their bees take care of themselves, and we have many of that kind in this section.

C. F. Muth, for Ohio, made an extract from the Secretary of State's report for 1880, showing that State to contain 169,755 colonies of bees, and to have produced 2,521,000 lbs. of honey during the year 1879.

Dr. W. W. Hipolite, for Arkansas, responded by letter. He anticipated meeting with the Convention, but at the last moment was prevented by urgent professional duties. He also adds: In thus failing to respond either in person or by report I would not have the Society judge that I have neglected

the duties pertaining to my office as Vice President. I have at all times endeavored to permote the interests of bee-culture in this State; and have the satisfaction of seeing the old "gum" give way to movable-frame hives. As you are aware I have induced our State Fair Association to make a separate class and offer liberal premiums for the best display of bees and honey, &c., "in the most marketable shape." I have paved the way, also, for my successor in office to organize a State Bee-Keepers' Association at the time of our State Fair, to be held about a month hence.

The following letter was also read:

De Vall's Bluff, Ark., Aug. 7, 1880.

Mr. President—My Dear Sir—By referring to the premium list of the 13th annual State Fair of Arkansas, which is to be held in Little Rock in October, you will see how the interests of bee-keepers have been cared for in this State. In accordance with the suggestions which you made to the Vice Presidents of the National Society, through the AMERICAN BEE JOURNAL for Febr ary. I placed myself in communication with the official board of our State Fair Association, and submitted a list with a recommendation that it or something similar be adopted as a basis for the premiums which it was hoped would be offered for the products of the apiary. My list has been adopted and a separate class—Class K—made for honey, etc. You will please notice that the premiums awarded for honey will be for the best "in the most marketable shape." The words quoted I consider important to prevent the awards being given to honey which in itself may be equally fine, but stored in a common "cap." This has been done. W. W. HIPOLITE.

Dr. N. P. Allen, for Kentucky, reports bee-keeping in a prosperous condition in that State. Bee-keepers' Associations have done much to disseminate that knowledge that enables man to prosecute bee-keeping intelligently and profitably. The standard works on the management and culture of the honey bee, with the periodicals that are published monthly, devoted to scientific and practical bee-culture, and the production and sale of pure honey, have been scattered broadcost over the State, and have done a great work in dispensing the dark clouds of ignorance that have hung over the minds of the people, and of opening the eyes of the bee-keeper to new fields of thought and investigation. The consequence is many have thrown away the old box-hive, and have adopted the movable-frame hive, have procured the Italian bee, and have supplied themselves with honey extractors, bee smokers, honey boxes, sections, comb-foundation, and such other useful inventions as will enable them to prosecute bee-keeping profitable and pleasantly. Thousands of pounds of both extracted and comb honey are now produced where none was obtained a few years ago, and I feel justified in saying there is no State better adapted to bee-culture and the production of honey than Kentucky. With her forests of poplar and linden, her mountains and plains so rich in bee-forage, her fields covered with blue grass, inviting the busy bee to come to the "feast of fat things"—milk and honey, almost without money and without price. I would report that we have organized a State Bee-Keepers' Association, and that we have 3 other associations in the State, all of which are doing a good work. I am satisfied there is not more than half an average honey crop this season. Bees are in good condition for winter. I earnestly advise all to make proper preparations for winter, and leave nothing undone that will conduce to the safety, and comfort of the bees during their long winter imprisonment.

Dr. J. P. H. Brown, for Georgia, reports the honey crop of the entire State will not be over ¼ of an average. The latest report of the Commissioner of Agriculture of the State, that contained anything in reference to bees, estimated the number of colonies in the State at 77,135, which is only one colony and a fraction to each square mile. The average yield of honey per colony is put at 28 lbs. Total product 2,159,780. The bulk of the bees are kept in the old-fashioned box-hive, and all wintered on their summer stands. In many places movable-frame hives are being introduced, and also Italian bees. The major portion of the honey taken is of an amber shade, rather dark, but of fine flavor, and when in new comb, it presents an inviting appearance. The honey is mostly obtained from the natural flora of the country and not from crops cultivated.

D. P. Norton, for Kansas, reports as follows: It is impossible even to approximately estimate the honey crop of this State at this date, though it may be safely put down as light. The honey harvest in the State comes mainly in September and is not yet secured. I would not estimate it to exceed ¼ to ⅓ an average.

P. P. Collier, for Missouri, says: In making up any report for Missouri, I find from various correspondence in different localities, a very slim crop of honey up to Sept. 1. The heavy loss of bees last winter and spring, the great effort to build them up again, and the continued dry weather, both early and late, is the main cause of the failure in

the honey crop of Missouri. Most reports are good on increase and good condition of the bees at present for winter quarters, and, with Providence smiling upon us, we feel that Missouri will take her place among the great honey-producing States. At present, we report about one-fifth crop of honey, and 75 per cent. increase in colonies.

Paul L. Viallon, for Louisiana, writes: I had made preparations to assist the National Convention of Bee-Keepers, at Cincinnati, and, as stated before, intended to write an essay to be read. But, as luck will have it sometimes, I have been confined in my room for over 2 weeks, suffering from a neuralgic pain in the head, caused by a catarrh, and, though still suffering, I thought of informing you of the cause of my absence, &c. Having to give up the idea of having the pleasure of meeting so many friends, I have also to regret not having been able to gather my notes and write the essay promised. With all the wishes of a great success, I am in the hope to meet you all at the next meeting.

H. L. Jeffrey, for Connecticut. So far as I can learn from all the bee-keepers I have seen throughout the State, I cannot report more than half a crop of honey, though a fair per cent. of increase by natural swarming. A very few of the practical Italian bee-keeper, who have made a practice of suppressing increase, have received a good surplus in box and extracted honey. A kind of foul-brood is showing itself epidemically.

Adjourned till 1:30 p. m.

AFTERNOON SESSION.

The Convention proceeded to the selection of a committee of five, to nominate officers for the ensuing year with the following result: W. Williamson, Kentucky; Chas. F. Muth, Ohio; Dr. Ehrick Parmly, New York; A. I. Root, Ohio; Dr. J. P. H. Brown, Georgia. The committee were instructed to report to-morrow morning.

The Secretary read a letter from Prof. A. J. Cook, of Mighigan Agricultural College, regretting his inability to have his essay on "The Tongues of Different Races of Bees," ready for use in this Convention. He is particularly desirous to make an accurate and exhaustive examination, and give a report that may be wholly reliable; to do this, he will require more time, but when satisfied with the prognosis, will publish the conclusion reached in the BEE JOURNAL.

Individual reports for the season were now called for; only 37 responded in detail. Of those responding, but few reported an average yield. Six reported no honey; fourteen had secured very little; seven reared and sold queens, but had obtained no honey; forty-four had made bee-keeping profitable the past season, while eighteen had not succeeded so well. Very many failed to respond to the call.

The following paper was then read on

Honey-Producing Plants, Trees and Shrubs of Kentucky.

There is no subject of more importance to the bee-keeper, nor is there one that gives him more pleasure than the study of honey-producing flowers. No matter whether they bloom in the garden, the field or the forest, or perchance along the roadsides, if our bees gather honey from them, they at once become an object of interest and investigation. The question of bee forage is one that every one engaged in bee-keeping should investigate, for upon the amount and duration of honey-producing plants in the vicinity of the apiary depends the success or failure of the enterprise.

We do not deem it necessary or important to mention all the flowers that bees work upon, as there is scarcely any flower that blooms in this latitude that does not afford either honey or pollen to some extent; but we shall confine ourselves to such as we consider the most valuable for honey production, that are native to Kentucky, and also to such as we believe are worthy of cultivation for bee pasturage.

First, then, we have the elm, the elder, the hazel and the willow, that bloom in February, and in warm winters in January. They afford mostly pollen, and but little honey. Next in order come the maples—the red, the silver-leaf and the sugar maples. They are valuable in stimulating early brood-rearing, furnishing an abundance of pollen, the staff of life to the honey bee, as bread is to man. In March the wild plum and red-bud or Judas-tree, bloom in rich profusion, and the hum of the little worker is music to our ears as they gather in the rich stores at their command. As the season advances to the last of March and 1st of April, the peach begins to open its honey-laden flowers, and, as it were, to invite the busy bee to a rich feast of fat things. Then the strawberry begins to blossom, and the cherry opens its snow-white flowers. The pear and apple come in quick succession, and the busy hum of the little bee fills the ears and heart of the bee-keeper with ecstacy and delight, as well as pleasant thoughts that feeding time is over, and the bees are preparing, by raising brood in abundance, for the golden harvest just ahead. The black locust, blackberry and raspberry begin to bloom the first of May, and our bees gather an abundance of honey from them, of rich, delicious flavor, though but little of it is ever taken, as it is consumed by the bees in rearing brood. The poplar begins to bloom about the middle of May, and affords more honey than any forest tree with which we are acquainted. Its cups of golden nectar often run over, and our bees gather honey so rapidly that we are astonished at

the progress they make in filling their hives and in comb-building.

Next comes the king of honey-producing plants, the white clover, and it continues to bloom through the month of June. It stands pre-eminent as a honey-producing plant, and its honey is praised for its snowy whiteness and its delicate flavor. From the middle of June till the middle of July the linden blossoms, but as it is very rare in Kentucky, the crop of honey gathered from it is confined to certain localities in the mountains and on the water-courses. It is rich in white honey that has a pleasant balsam flavor. During July and August the sourwood, prickly ash and sumach blossom, and as they come into bloom between the spring and fall honey harvest, are valuable, as they keep up brood-rearing, and when abundant near the apiary, and the atmospheric conditions are favorable to the secretion of honey, they afford a surplus of nice honey for the bee-keeper.

In July the yellow-wood and coral-berry or St. John's wort, add greatly to the crop in localities where they are found. The coral-berry continues to bloom through August, and is a valuable honey-producing shrub that grows in waste places. Its beautiful red berries adorn our highways, and are valuable as food for sheep and cattle. The smart-weed furnishes forage for bees in August and the early part of September.

The goldenrods and asters come in September and October, and continue till frost. Where they are in abundance, bees often fill their hives with the richest of honey, and the bee-keeper gets a large surplus for his share.

Many cultivated plants are used for food by man or beast, that afford rich bee-pasturage, and I will take occasion to say that I cannot recommend the cultivation of any that cannot be utilized in some other way besides for the honey they furnish. Quite a number are valuable for seed crops or food for domestic animals. The raspberry and gooseberry are valuable as honey producing shrubs and for their delicious fruit; turnip, rape, strawberry and buckwheat, all pay both ways and should be cultivated extensively by bee-keepers. White clover is worth all the other varieties as a honey plant, besides it is valuable for pasturage and hay. I recommend its production and cultivation. The various kinds of mustard are worthy a cultivation for seed crop, as well as bee forage.

I have not attempted to catalogue the honey producing plants, trees and shrubs in full, but only such as are thought the most valuable for production and cultivation by the honey producer. I am aware that there are many flowers that produce honey, besides those mentioned; some more, and some less valuable to the apiarist; but I think that I have called attention to such as are most worthy of our consideration and cultivation.

In locating an apiary for honey production, one should have an eye to the amount of bee forage in reach of the location; for no amount of labor and skill in the manipulation of our bees will pay where it is wanting.

N. P. ALLEN, M. D.

Smith's Grove, Ky.

H. R. Boardman, Ohio.—My bees have obtained a considerable quantity of honey, and I can attribute it to no source but the sap from the oak trees. I have frequently observed my bees working in large numbers on the twigs and limbs of the oaks, and especially on the smaller ones, but most frequently on the twigs, which seem more than usually covered with galls. (Mr. Boardman here exhibited a small burr oak limb which was thickly covered with galls or small nut-like excrescences, which give it a warty or knotty appearance).

Mr. Muth, of Ohio, recommended melilot or sweet clover to plant for the bees. He thinks it will most admirable fill the gap between white clover and basswood in the spring, and goldenrods and asters in the fall.

Mr. Coffinberry, of Illinois, thought sweet clover could not be too highly commended to bee-keepers. For several years the subject of bee forage has engrossed the attention of some of the leading ariarists and scientists in the country, and many were being forced to the conclusion—as *all* would be eventually—that it will pay to plant for honey. If, on an average of one year in four the necessity of feeding to winter through can be averted by a judicione selection of self-seeding plants, it will have paid, and even if the seasons of total dearth are less frequent, the stimulation it gives to brood-rearing in mid-summer, from the perpetual inflow of honey into the hives, and the subsistence it would afford after extracting closely at the end of the white clover and basswood season, thus keeping the colonies strong to take advantage of spontaneous fall bloom, will much more than repay the trouble of planting. The speaker would not recommend the apiarist to confine themselves to a single plant. During several years' experiments in the BEE JOURNAL Apiary, he has formed a most favorable opinion of mammoth mignonette (*reseda grandiflora*), as it blooms early, late and continuously, from spring till winter, and bees work on it in the morning and all day long till night. He had in his garden frequently observed bees working on balsams or lady slippers. The plant is strong and very hardy, and a profuse bloomer; it possesses the rare advantage of being disliked by cattle and other animals; even rabbits would not eat it. He hoped bee-keepers would test it thoroughly. Catnip and motherwort were well worth attention, and every waste place should be well seeded with them. They require but little encouragement, and the bees would prove

most grateful recipients of such favors bestowed on them, and repay it ten-fold in honey.

Samuel Fish, Ohio, endorses spider plant as a most excellent honey plant; he thinks it one of the best.

The Secretary read the following paper, entitled

Bee Pasturage.

Mr. President and Gentlemen of the Convention: As our honey crop mainly depends upon certain honey plants, it necessarily follows that our bees should be provided with them, so that they can collect nectar from early spring to late autumn. These plants should be kept in abundance so that when there is plenty of saccharine secretion in them the bees will not be obliged to stay at home.

Many bee-keepers think no more about bee-pasturage than they would of feeding the beautiful songsters of the woods. "'Tis true" they may believe there is an abundance of honey plants growing wild, under the best circumstances that nature will permit. Though this may be so with many localities, it is not so in all places. The basswood which may grow with great luxurience here, and the bees get a good flow of honey, a few miles further on there may be none of it. Where field flowers full of rich honey are in abundance, bees will commence to gather surplus early in the season.

All kinds of honey plants are not favorable to all locations; the basswood will not grow where it is wet and marshy; in such places the willow, maple, golden rods, and Spanish needles grow abundantly, and in such locations bees may have very little surplus in the early part of the season while in autumn they will have every cell filled with the most delicious honey. The white clover is fast becoming the best honey plant for it is genial to nearly all soils and can be found every where, along the roadsides, in the meadows, and in the pastures, and in my opinion it blooms longer where cattle are herded than elsewhere.

About 20 rods from my apiary is a field of 130 acres, used for herding cattle, and to-day the white clover is blooming with the same luxurience that it did in June, and the bees are filling their hives with honey gathered from it. There are years where the white clover has yielded no honey and bees have had to gather from other sources. As bee-keeping is fast becoming one of the great industries of America, we must provide our bees with ample bee-pasturage; if not limited to a few kinds, let there be great variation in the time of bloom. When the season is wet, white clover contains no honey, then buckwheat and borage must supply its place; the latter I believe is one of the most productive honey plants we have.

Let every bee-keeper produce as much honey as possible, so that others may be induced to recuperate, and that they may have pleasure as well as profit. Virgil says:

"The gifts of heaven my following song pursues,
Aerial honey and ambrosial dews."

L. H. Pammel, Jr.

LaCrosse, Wis., Sept. 19, 1880.

A. A. Freidenburg, Ohio, had expended $40 for honey plants. He put in about 150 feet square of mignonette (*reseda odorata*), and has not realized one-fourth its cost. Lady-slippers or balsams are good. Last fall he gathered about 1,000 roots of the Simpson honey plant, and knows he has been well repaid for his trouble. He has tried spider plant, and likes it. The blossoms are so shaped that the rains do not wash out the nectar.

Rev. L. Johnson, Kentucky, was decidedly in favor of planting for honey. He thought a variety of plants was best. Some seasons one plant would bloom and yield largely of nectar, while another might not prove satisfactory, and *vice versa*.

Mr. Harrington, Ohio, hoped the gentlemen present would not overlook the many excellent qualities of ground ivy. It was a hardy, thrifty plant; would grow anywhere, and under the most adverse circumstances: if you turned it upside down it would blossom up from the other side, and you could not kill it with a club; besides it was such a proverbial bloomer, that the season when it failed to blossom you would have no taxes to pay.

R. B. Price, Ohio, suggested lucerne or alfalfa clover, which had been extensively grown along the banks of the Ohio river by the late Mr. S. Mangold.

P. W. McFatridge, Indiana, spoke favorably of buckwheat, and said that aside from the honey, the grain obtained from it would always amply pay for its cultivation.

D. A. Jones, Ontario, said there was nothing equal to Bokhara clover. It blossoms early in the summer, and till winter kills it; the stalk is strong and well set, growing from 5 to 10 feet high, and well covered with bloom. He was so well pleased with it that, after several years' trial, he will this fall plant 28 acres of it. The plant has often been identified as melilot or sweet clover, but the speaker thought he could detect a difference.

Question.—Do you think it will pay to plant it with a special view to its honey yield?

Mr. Jones.—Yes sir; I know it will.

A. Benedict, Ohio, has observed that the flow of honey to the flowers is like that of sap in the trees, and an adverse wind will dry it up. He has often been in the forests while making maple sugar, and with a favorable wind the sap would flow in a continuous stream and sugar-making would go on very satisfactorily; but if the wind changed to come vigorously from a northerly direction, the flow of sap would cease, and with it the

sugar-making till the wind changed to a more favorable direction.

Mr. Boardman, Ohio, has had a little experience with spider plant and figwort. He does not think much of the former, as the flow of honey is not continuous during the day, and after the early morning hours the bees do not work on it; but with figwort the case is different, and the bees visit it at all hours of the day. He thinks it will pay bee-keepers to cultivate it.

A. I. Root, Ohio, is satisfied cultivation does much in developing any honey plant, and will greatly increase the quantity of nectar.

S. T. Pettit, Ontario, called attention to the hawthorn or thornapple of this country. Its time of bloom was very opportune for the bees, and its nectar so easily obtained and so fragrant that bees would fly a long distance to work on it. Where a hawthorn bush was in bloom, vast numbers of bees could always be found.

D. A. Jones, Ontario, was called up to give his views regarding over-stocking. He thinks it very difficult to overstock any good location with bees. He has 300 colonies in his home apiary, and at another locality but a few colonies, entirely out of range from any other bees. This latter bee range is quite as desirable as the former, and the bees equally as good and strong, yet they store no more honey per colony. He has visited many apiaries in the East with 1,000 to 1,200 colonies in one place, and that, too, where appearances indicated that 6 or 8 miles afforded no more nor better pasturage than 2 or 3 miles would in America. He is satisfied that over-stocking is an imaginary evil, and one of the improbabilities in a good locality for bees.

Adjourned till 7 p. m.

EVENING SESSION.

President Newman invited Vice President Dr. J. P. H. Brown to the chair, and gave the following address on the

Improved Race of Bees.

To obtain the best results we must possess the highest grade of bees that it is possible to obtain. Our object being to elevate the race, there must be no backward steps; no deterioration should be countenanced; no thoughtless or hasty work must be allowed—but after carefully weighing the matter the most thorough and rigid treatment should be employed, all looking to the advancement of the art and science of reproduction, and the building up of a *strain* of bees that will give the very best of results.

In developing the highest strain of horses, not all their offspring are equal to the best; careful selection of those coming the nearest to the ideal animal must always be chosen, from which to breed, and the closest scruting is necessary while making that selection. The same is true of cattle, sheep, hogs, poultry, and bees. "Sports" and "variations" continually occur, producing inferior progeny; but all careful breeders who have an eye to the improvement of the race will reject those that do not come up to the "standard of excellence;" sending such animals and poultry to the shambles—so let us carefully select the best queens and drones to breed from, and remorselessly sacrifice all others.

Five points are essential to govern the selection: they must be prolific, industrious, docile, hardy, and beautiful in appearance.

The queen must be prolific, to be able to keep the hive full of bees, to gather the honey harvest when it comes; the bees must be industrious to let nothing escape their vigorous search, while gathering the sweet nectar; they must be docile to allow the apiarist to manipulate them with ease and pleasure; they must be strong and hardy, to withstand the rapid changes in climate; and must be of singular beauty, to attract the admiration of the fancier of fine stock.

"The bee of the future" will be present at the very moment when the slumbering flower, under the penetrating dew, awakes to consciousness, and unfolds its buds to take in the first rays of the morning sun. The *ideal* bee will dip into that tiny fountain, which distils the honey drop by drop, and bear off its honeyed treasure to its waxen cells of virgin comb.

Much has been written and spoken about queens duplicating themselves—but what we want is *progression*, not duplication! We want to breed up—good, better, best—not simply to hold what we have, but to improve the race. Mr. Langstroth struck the key-note when he said: "We want the best race of bees, or the best cross in the world." It is yet an open question as to what part will be taken by the Asiatic races in producing "the coming bee." A "cross" in this direction, and breeding in or out the distinctive features and propensities, may possibly, be "the next progressive step." But of one thing I am certain, however, "the bee of the future" will be the one that will gather the most honey, be the most prolific, and, at the same time, the most docile, hardy and industrious; and when produced, whatever may be its color or markings its name will be *Apis Americana!*

D. A. Jones, Ontario, moved a vote of thanks be tendered Mr. Newman for the able address. Carried unanimously.

Rev. L. Johnson, Kentucky, would like the question fully discussed as to the superiority of bees. Since he became enthused in the occupation of bee-keeping, he has been unable to pass a hive of bees without observing all the characteristics connected with it. He thought the Italian bee a great advance on the old-time black bee, and doubted not they were capable of still greater improvement. He thought all would

admit the greater prolificness of hybrid queens. The past season he had one which produced at least a bushel of bees, and that colony had given fully 200 lbs. of honey. What we want is the race of bees which will bring the most money.

Mr. Newman was certain Mr. Johnson and himself agreed upon the general results to be attained. First, we want the bee which will obtain the most honey—and the most honey brings the most money; then the other traits as he had enumerated them.

Mr. Harrington, Ohio, has tried several strains of bees: First, Italians; second, albinos; third, a cross between Italians and albinos. The claim that the dark or leather-colored Italians are the best honey-gatherers is all bosh. He finds the larger Italians are the best honey-gatherers, regardless of color. He has a holy queen that is very prolific, and her bees gave the best yield of honey he has received this season. This queen was received late in the season, placed in a small nucleus, and had built up to the strongest colony he owned.

O. O. Poppleton, Iowa. I have experienced that the lighter bees are far ahead in all the desirable qualities. I invariable get a good return from the yellow bees, when perhaps the dark ones are in a destitute condition. When the yellow bees have no surplus, it is useless to look any further.

Mr. Muth, Ohio, had removed nine Egyptian queens in one day to give place to yellow Italians. The Egyptians were in a starving condition while his light Italians were filling the surplus boxes nicely; besides, the Egyptians were so cross that there was no pleasure in working them. In fact, they seemed almost intractable, even with the plentiful application of smoke.

Dr. J. P. H. Brown, Georgia, thinks the idea prevalent with some apiarists, that the dark Italians are the best workers, is a mistaken one. He thinks the amiable, light-colored bee just as good a worker as the darker colored.

Mr. Harrington, Ohio, inquired why the grand-daughters of imported queens are always lighter than those imported.

Rev. Mr. Johnson, Kentucky, thought it was undoubtedly owing to climatic change; the same effects were true of horses, cattle, and even the human family in point of superiority.

C. C. Coffinberry, Illinois, attributed much of the superiority of the American-Italian bee to a loose practice prevailing in the selection of queens for shipment to this country. In filling an order, most of the Italian queen-breeders paid but little attention to the selection of the best; with them it was enough to know that a queen was fertilized and laying, to fill the requirements of an order, and he ventured the assertion that not more than one queen in a score was fit to breed queens for the market. With the American queen-breeder, who had any regard for reputation, the best are always selected for propagation, and the fact of the importation does not constitute it the best. By a careful selection from the very best of those imported, and a subsequent breeding with a special view always to perpetuate the best, we have now reached a point far in advance of the apiarists in Italy.

S. D. Riegel, Ohio.—The last speaker has expressed it exactly. Purchasers wanting the best queens and bees always select from the American improved stock, instead of the imported or that bred directly from the imported.

Dr. Brown, Georgia, acquiesced in the above opinions.

Mr. Harrington, Ohio, said he had never seen an imported queen that did not produce three-banded Italians, although some were very dark.

Mr. Coffinberry had seen several which did not.

A. G. Hill, Indiana, had seen at least two imported queens that produced hybrids.

Mr. Newman has noticed bees in Italy as black as any in this country.

Mr. Jones said he had seen black bees at several places in Italy, even in the vicinity of Rome. He gave, as his opinion, that the Italian bees were descended from the bees of Holy land, or those on the Island of Cyprus.

The following communication was read, as bearing upon the subject under discussion:

The Yellow Race of Bees.

The advertisements and other writings of the breeders and dealers in queens and bees, as published in the bee papers, if taken literally, would lead one to believe that the name "Italian" is synonymous with the yellow race of bees. To inquire into the truth or falsity of this assumption on the part of interested parties, is the purpose of this short article. It is but repeating what every well-informed person knows, when I say that with the honey bee, as with the ants and some other insects, there is the yellow or light-colored race, and the black or dark-colored race; and these races when isolated ought to be, and are as distinct, one from the other, as the yellow and black ants are. But if they are so situated (being of the same species) that the yellow queens may meet the black drones, and *vice versa*, the result will be "graded stock," or what is commonly called in bee parlance hybridization.

Now I assert without fear of successful contradiction, that the yellow race of bees

is not peculiar to Italy; they are found in the Island of Cyprus, Palestine, Syria, and doubtless in other parts of the earth; hence the name "Italian" is not synonymous with the yellow race of bees. If further proof was necessary to establish this proposition, it is found in the fact that the breeders and dealers in queens have bought and sold "golden" Italians, "dark" Italians, "leather-colored" Italians, and all the shades of the rainbow under the spacious name "Italian." I am of the opinion that not more than 25 per cent. of all the queens imported from Italy fairly represent the pure yellow race of bees. I have seen at least one imported queen from Italy, that produced the most common hybrids. I now have queens in my apiary from six imported queens, and the variations are as palpable as that seen in "graded" stock.

Dr. Willich, in his "Domestic Encyclopædia or Dictionary of facts," re-published in this country nearly 80 years ago, in his chapter on the honey bee speaks of Milan, Italy, and other places, and says "of the several kinds of working bees" that "those which are small, oblong, smooth, bright or shining, and of a gentle disposition" were preferred by the ancients; "that the superior utility of this species has been established by experience." That this author in the words "bright or shining and of a gentle disposition" intends to refer to the yellow race of bees, so highly prized at the present day, I have no doubt. And when he speaks of the "several kinds of working bees" he proves all that I have said, viz: That the imported stock from Italy as a general thing do not fairly represent the "bright" or yellow race of bees, because of their contact in the past with other races of bees. It matters not, though the bright or yellow race of bees in Italy have survived and absorbed (because of their "superior utility") all other races of bees in that country; they must necessarilly have retained some of their blood, peculiar traits, &c., which is continually cropping out in the process of breeding.

Hence we have bees from the same imported queens which fairly represent the pure yellow race in color and disposition; and bees called "dark" Italians, and "leather-colored" Italians, full of vindictiveness, always ready for a fight. These fairly represent the dark, or black race of bees both in color and disposition. There is a curious fact connected with the amalgamation of blood, well understood by stock breeders, and that is, there is always a tendency to run downwards; or, in other words, the blood of the inferior parent always prevails in the long run, because their progeny is invigorated by the superior blood of the superior parent, while nothing is given in return.

We have a striking example of this accepted proposition in the offspring of the queens imported from Italy. So prone have they been to breed after the taint of blood in their composition, that breeders and dealers have been compelled to do all in their power to popularize the so-called "dark Italians" or give up the business of queen-rearing at present prices. No one of them, however, has claimed that the so-called "leather-colored" Italians are a distinct race, separate and apart from the yellow and black varieties, which are acknowledged by all to be distinct and fixed races of bees. The so-called "dark" Italians, therefore, is either a distinct race or type of bees, or they are hybrids, there is no escape from this conclusion. G. W. DEMAREE.

Christiansburg, Ky.

Mr. Boardman moved, as a test of the sentiment of the Convention,

Resolved, That the importation of Italian queens is no longer advisable as an improvement of our present race of bees.

A. I. Root, Ohio, has labored under the impression that there were no black bees in Italy. He is now satisfied they do exist there, since Mr. Jones says he has seen them. Mr. Root thinks, however, the manner of applying tests, and the points of excellence bred for, has had much to do in improving the race, and in deciding their purity.

W. Williamson, Kentucky, hoped the resolution would not prevail. Since 1861 we have been improving.

Capt. W. F. Williams, Ohio, moved to lay the resolution on the table. Motion prevailed.

D. A. Jones, Ontario, stated he had been unable to perfect his paper on the "peculiarities and advantages of Cyprian bees," however, he would tell them something of what he had seen and encountered in his European trip. He stated that the people of Cyprus were a superstitious people and he had experienced much trouble in his dealings with them, owing to their prejudices against foreigners. From Cyprus he had gone to Jerusalem, and had obtained many queens and bees in the holy land, but had experienced much difficulty in getting them over the mountains and to the sea-coast, as the bees in that far-off land were mostly kept in hives made of unbaked clay, and cylindrical in shape. After a a swarm of bees was put in one of them, the end was closed with an earthen plate or disc which fitted in, and the cracks were then closed with mud, which made them quite tight. These were then packed on the tops of each other, in pyramidal form, with sometimes several hundred in a single pile, and the entrances all opening one way. In this manner the top layers kept the lower ones cool, and although the heat was often as high as 112° to 115°, he had never heard of a case of melting down of the combs. When honey is wanted, the disc or plate is removed from the end, some smoke blown in to drive the bees forward, then with a long knife the combs are cut out, the plate filled in again, and the bees left to repair the

damage and fill up with comb and honey again. Mr. Jones bore strong testimony to the prolificness of the holy and Cyprus queens, and thought they would prove valuable addition to our present fine race of Italian queens.

Adjourned till 9 a.m. to-morrow.

SECOND DAY—MORNING SESSION.

The Convention was called to order by President Newman.

The report of the Committee on Nominations being called for, Mr. Williamson, the chairman, asked for further time, as all the committee were not present. On motion, further time was granted.

The Secretary read the following communication :

To the President—Dear Sir :

I have been troubled with "Foul Brood" and have succeeded in eradicating it so well that at present there is not a particle in my apiary. When I discover it in a colony, I immediately take all their combs from them except one or two empty ones that contain no brood ; I first extract the combs, then cut them out of the frames and immediately melt them up into wax ; I boil or bake the frames for a few minutes and use them again, instead of new ones, as they are then free from infection. In two or three days I shake the bees off of the remaining combs, in a new clean hive, and give them nothing but foundation to begin with. To purify the old hive, I first burn about two ounces of sulphur in the hive ; then scrape the hive well with a square-ended knife, removing all propolis and wax, then scald throughly with brine. This, I find, makes the hive all right. By this course I only lose the combs and save the hives, frames, wax and bees.

I have an improvement in frames to present to the fraternity which I believe they will appreciate, as I have found it to be quite valuable, and have never known of its having been used except where introduced by myself. I therefore claim it as my own invention : Did you ever take hold of a heavy frame by the top-bar and give it a downward jerk to remove the bees, and have the top-bar, come off ? If you have, then you know how provoking it is, and inconvenient to remedy at the time. I have no further trouble now in that line and will now describe my invention. In nailing up a frame I use but one nail at each end of the top-bar, to secure the side bars in place, and then take a strip of tin about 5 inches long by ¼ inch wide and punch a small hole near each end. This piece of tin is first to be nailed to the side-bar about 2 inches from the top, with a small brad, then bent across the top-bar, down the other side, and nailed to the side-bar. This strip will bear great weight. The other end of the frame is finished in the same manner. I use the refuse strips of tin from the tinshops, and the expense is quite trifling.

Chattanooga, Tenn. S. C. DODGE.

The Secretary read the following letter from Prof. J. Hasbrouck :

President Newman :

I am sorry that I shall be obliged to disappoint you and the Convention—if it will be any disappointment—in not furnishing my "fine comb glucose honey" as per agreement. I am not able to do this on account of the very abundant and uninterrupted flow of honey in this locality ever since I promised the article and even from the 10th of July. During this time it would have been impossible to get bees to take the vile stuff, even if mixed in only small proportions with honey, I had hoped that there would have been a slight "rest" between toad flax (*linaria vulgaris*) and the fall asters ; but the country is yet yellow with the flower, while the latter is yielding honey in a flood almost. Hoping that toad flax may extend around to all the brotherhood, so that none of them may have time to dream of bonanzas in any kind of "fed honey," and wishing for you all a very profitable and agreeable meeting. J. HASBROUCK.

Bound Brook, N. J., Sept. 26, 1880.

In consequence of the non-reception of several papers, and as several desired to return to their homes this evening, Mr. Williamson offered the following resolution :

Resolved, That the Convention complete its labors to-day, so that its adjournment this evening may be final.

On motion, the consideration of the resolution was postponed till the afternoon session.

Dr. J. P. H. Brown, Georgia, addressed the Convention on

Queens ;

Their Fertilization and Peculiarities.

The subject I have chosen for the consideration of your Society is : "Queens—their fertilization and peculiarities." While this, no doubt, may seem hackneyed and threadbare to many present, it is, after all, the pivotal point around which the whole science of apiculture revolves.

During the past 25 years what desperate efforts have been made, and what money has been expended, in order to procure queen-bees that would produce worker progeny possessing more desirable qualities than those with which we were already acquainted ! To get something better nearly every known country has been ransacked : even Palestine and the historic Isle of Cyprus have been made to contribute their quota.

The ideal queen-bee of to-day is an entirely different personage from her royal highness of 30 years ago. Then,

"First of the throng and foremost of the whole,
She stands confest the sovereign and the soul."

Now, while she may still be regarded as the soul of the colony, she stands divested of her royal robes, and is in a great measure the creature of the apiarist. The cry is for queens that will produce progeny having the very essence of all the good qualities and virtues of beehood. They must be industrious, good honey gatherers, long of tongue, strong of wing, peaceable, gentle to handle, must never sting their keeper, must

never rob their neighbors nor suffer themselves to be robbed; and, in connection with all these attributes, they must possess the quality of beauty. I have no doubt there are bee-keepers who would desire a much longer array of virtues than those I have enumerated.

Whether it is possible to center and focalize all these physical qualities, and psychical characteristics into the individuality of a queen-bee, I consider rather questionable. It is quite likely that the degree of attainment in matters of this kind is limited. We find such to be the case in breeding stock and poultry, and in pomology. Nature seems to have set a limit to this improvement—when we arrive at that point, there is a physical degeneracy with a rapid tendency to revert back to the original type.

For the last 10 years I have made the breeding of Italian queens a specialty, and during this time I have spent days of observation and thought in studying every phase of the subject in order to reduce it to a demonstrated theorem. My experience and observations can be summed up in the following propositions:

It is possible to maintain a standard of vigor, and achieve a great degree of improvement in our queens with especial reference to desirable qualities in their worker progeny. In considering this proposition the essential points to be observed are,

1. Our breeding stock must be pure, vigorous and prolific. Pure stock is of the first importance if we wish to breed with an eye to improvement.

2. The worker progeny of our breeding mothers must possess those qualities that we most desire to transmit and perpetuate.

3. All the conditions necessary for the production and development of a healthy and vigorous queen must be complied with. Before I speak of these conditions I shall refer to the fecundated egg and to its appearance at the time of the birth of the larvæ. We often hear talk of rearing queens from the egg—that is, the egg is selected and bathed in the queen-developing food even before it is hatched. Such queens, it is argued, are better than those reared from the larvæ. This notion, like thousands of others owes its existence more to a repetition of old theories than it does to well-observed and demonstrated facts.

I believe it is admitted by all scientific apiarists that there are no eggs *per se* laid especially for the production of queens, and another sort of eggs laid to hatch workers. It has been most conclusively determined, that an egg that would, under ordinary circumstances, develope into a worker bee, would when developed in a royal-cell and fed with royal jelly, come forth as a queen or mother bee. The ovum, then, that would hatch a queen is not different from that which would hatch a worker. It is the same. It has all the characteristics of a perfect egg—the vitalized germ, the yelk, the albumen, the chorion or shell, thus constituting the "initial" insect.

Nature has amply and most bountifully provided and stored within the delicate egg-shell and membranes sufficient food for the support of the embryo during its abode in its egg-home.

From a long series of observations that I have conducted with a view to determine if any prepared food is ever deposited in the cell before the hatching of the egg, I am satisfied there is no such food placed there until after the larvæ has emerged from the egg. As soon as this takes place, the nurse-bees quickly deposit a milky looking food within reach of the little grub. In fact, this food is often placed there before the exuviated shell is removed from the cell, which at times makes it appear as though the egg was still there and bathed in the larvæ-pabulum.

It may be laid down as a well established maxim that the younger the larvæ, other conditions being the same, the better the queen. If possible the larvæ should not be over one day old. To know the exact age, requires experience and a system of close observation has to be kept up. The colony containing the breeding queen must be kept in a thrifty condition. The cards of combs intended for the reception of the eggs should be new and clean. The time of its insertion into the hive, and the time of egg-deposit, must all be noted. An egg will hatch on an average in three days—sooner if the weather should be very warm, and longer if it should be cool. When examining the frame it should be taken to a strong light, otherwise the newly hatched grub cannot be seen. At first when it appears outside of the shell it is a tiny elongated mite, but its nurses soon literally bathe it in food. When the larvæ is three days old it is very rare that a good queen can be reared at all.

4. Next in importance to newly hatched larvæ is a sufficient quantity of bees of a suitable age to supply the magical food that is capable of transforming the grub into a bee anatomically and physiologically different from all other bees in the hive, and capable of becoming the mother of a whole colony.

We know royal jelly is elaborated by the workers, but how it is compounded we do not know; still, we do know that without honey and pollen no queen-cells can be built. An abundant supply of pollen is of the greatest importance; for even with plenty of honey and a scarcity of pollen, the cells will be only abortive attempts. The number of bees must be sufficiently large to keep up the temperature of the hive and to perform the ordinary duties, besides preparing the requisite food. Less than two quarts of bees I should consider a weak queen-rearing colony. The bulk should be young bees, or such that never did duty in the fields. The cells must be subjected to a rigid system of pruning—the large and perfect only retained, and the small and puny-looking ones rejected. When a cell is hatched in an incubator or in a nursery cage and the queen is kept confined for a few days and thus deprived of the freedom and invigorating influences of the hive, she becomes thereby impaired to a certain degree, in physical power, and also in color. Hence, such contraptions are not to be recommended and should only be used in cases of dire necessity.

We have now, in a general way referred to the most prominent conditions whereby we can improve the standard of our queens

so far as physical development is concerned. Our queen is now supposed to have arrived at that age when her organs of generation commence to develop, and when she becomes infused with that sexual impulse that prompts her to leave her hive to seek a union with the male. Without this union, her laying capacity will be limited to comparatively a few eggs that will be unimpregnated and will hatch only drones. By the way, I will here take occassion to remark, that while the Rev. Dr. Dzierzon has received the credit, however justly, of publishing to the world the anomaly of the development of unimpregnated eggs under the theory of parthenogenesis, Huber undoubtedly had the honor of making the discovery that virgin queens very often laid eggs and that all such eggs produced only drones.

The influence of the male in stamping the character of the worker and queen progeny is much greater than the majority of bee-keepers suppose. While the drone progeny of virgin queens, and even that of a fertile worker, possess perfect genital organs and are capable of fertilizing the queen, as we have well anthenticated cases to prove, still I would recommend that the greatest care be taken to select large, well developed drones from the best colonies that are noted for purity and industry. If the colony chosen has other desirable qualities, so much the better. Drones from objectionable colonies can partly be held in check by the removal of all drone comb, but they can effectually be prevented from issuing by the application of a drone trap.

Eight or ten years ago there was much interest taken by the propagators of Italian queens to devise some plan by which they could be fertilized in confinement. Hundreds of experiments were tried, with all sorts of traps, boxes, and tents, and all proved failures except in a few cases. I fear even some of these reported successes have been accomplished by allowing sanguine hope and imagination to get the better of correct observation. Recently a series of fresh experiments have been conducted with some accredited success. I would not have you understand that I think fertilization in confinement impossible. I have had a wonderful case to occur in my own apiary a few years ago, of a fine Italian queen, with partial wings, becoming fertilized within the hive. While never a prolific queen, she laid worker and some drone eggs, and kept up her colony for some time.

Fertilization on the wing in the air seems to be the plan that nature signaled out for the male and female of the honey bee. The structure of the drone genitals in conjunction with the formation of the contiguous parts of his abdomen favors this opinion. Prof. Leuckart, an entomological anatomist of celebrity, when speaking of this subject observes: "The more completely the abdomen is filled and distended, the more readily and perfectly will the sexual apparatus be thrown forth. Now, among the internal organs of the drone, there are some which can become inflated only under certain conditions. Such are the trachea, which permeate the body as ramified tubes with occasional enlargements or sacs of variable dimensions. The most of these, while in a state of repose, are collapsed and nearly empty; but they become somewhat charged with air while the insect is preparing to fly, and are only fully inflated when it is on the wing. The inflation of these tracheal tubes, presupposing the simultaneous closing of the spiracles, must very considerably increase the pressure exerted on the side-walls of the abdomen and this enables us to perceive the reason for the remarkable fact that copulation is effected exclusively while the parties are flying. In a state of comparative repose, when the tracheal vessels are collapsed, the amount of pressure which the drone could exert on the contents of the abdomen would not suffice to effect that perfect inversion of the copulating organs which is indispensable to liberate the spermatophore and introduce it in the vaginal sheath of the queen."

It is to be hoped that experiments will still be conducted, to effect some more successful plan than any yet devised, of fertilization in confinement. In order to make any plan successful, it must comply with all the natural conditions demanded in the case.

Among the peculiarities of queens I may mention virgin queens laying before copulation. A case of this kind occurs now and then, but rarely. Queens may go out a number of times to meet the drone. This is often the case at those seasons when drones are scarce. She may keep going out till impregnation is effected. After this is accomplished, I do not think she ever leaves the hive except to accompany a swarm. The only certain test to tell if copulation has taken place during her flight, is by the portion of the drone's genitals adhering to the queen.

After a queen is once fertilized, does she ever leave her hive for a second fertilization? I have often heard of reports, and had cases under my own observertion, that leaned strongly toward the affirmative side of the question; yet I think that all such circumstantial evidence can be satisfactorily explained without militating in the least against the one-impregnation theory.

As there are many freaks and anomalies connected with queen-bees it would be useless for me to make any attempt at enumeration. But by a careful study of such cases as they arise in our own apiaries, we may gather ideas and facts that may be of vast benefit to us in future observations.

Augusta, Ga. J. P. H. Brown.

P. W. McFatridge, Indiana, said he had experimented by placing larvæ in dry, partially built cells, and the bees would feed them and rear queens, but they were invariably killed before fertilization.

Dr. Stevens, Indiana, inquired if the queens thus reared were in any wise different in appearence from those reared in the natural way?

Mr. McFatridge.—No; I found them apparently as well developed, and could observe no difference.

A. G. Hill, Indiana, took exceptions

to Dr. Brown's theory of the age of the larvæ. It was an admitted fact that the first queens hatched were always the best developed and most prolific, and consequently the larvæ, if produced queens first, would be preferable. He thought the age of the larvæ made but little difference, whether one or three days old.

A. Benedict, Ohio, prefers the queens which emerge from the cells first. He thought them better developed, more prolific, and of longer life.

Dr. Brown, Georgia.—My experience has been that the bees select the best, and concentrate in greater numbers on those, and, as a consequence, they hatch first and produce the best queens.

Mr. Benedict gave his process of queen-rearing, which consists in giving 1 frame of larvæ and brood in all stages, then concentrates a heavy force of bees upon it. He thinks larvæ one or two days old is the best.

S. F. Newman, Ohio, has a neighbor who practiced the grafting process quite successfully last season; but the colonies reared from those queens were all inferior.

J. Scholl, Indiana, could, from his own experience, fully sustain Dr. J. P. H. Brown's process of rearing queens from the youngest larvæ.

S. F. Newman stated that nearly all the queens he had reared by the grafting process, had been superseded within a year.

Rev. L. Johnson, Kentucky, thought a larvæ fed with royal jelly from its first emergence from the egg must be best. It is an admitted fact, that the best queens are reared in swarming season, and perhaps at that period the requisite food for rearing good queens is most abundant. If fed with larvæ and eggs partially digested, as claimed by some writers, then it is necessary that brood in all stages should be given the bees with which to rear the queen. He would not keep a queen in his apiary which has gone longer than eight days before meeting a drone.

Dr. E. Parmly, New York, said it was possible to give a colony of bees a single egg, from which they would rear a perfect queen. In fact, if robbed of a queen in mid-winter, they will rear a queen.

Capt. W. F. Williams, Ohio, has devoted much time to queen rearing, and endeavors to follow nature in his methods. He prefers giving eggs from which to rear queens, but wants his bees and hive in a normal condition. He has devoted much of his time in trying to develop a better race of bees, and has met with encouraging success. He had offered a challenge, to forfeit a colony of his best bees to any person who could produce a colony of bees with longer tongues than some he had reared, and no one had yet claimed the forfeit. At a recent meeting of the Northwestern Ohio Bee-keepers' Association, he exhibited bees which reached syrup a distance of eleven thirty-seconds of an inch, through fine wire cloth. He is still breeding with a view to attaining greater perfection in the length of bees' tongues.

The Secretary read a communication from J. E. Moore, Byron, N. Y., accompanied with some samples of paper-body comb foundation, paper separators, and honey in Moore's Perfection honey box. The paper for separators and comb foundation is coated with shellac to harden the texture so bees cannot gnaw and destroy it. He says he has tested it thoroughly this season, and as not one of them has been injured by the bees, he will hereafter use paper in preference to tin, as it is not only cheaper, but makes a warmer box for bees to cluster in than if no separator is used. The comb foundation is made on lighter paper, prepared in the same manner, which is dipped in melted wax and then passed through the rolls. He thinks it an improvement on wood as a partition wall in making foundation. He reported about half a crop of honey, the shortage being the result of a partial failure of white clover and the destruction of red clover by the clover maggot.

The Secretary read the following letter of inquiry:

Lansingville, N. Y., Sept. 3, 1880.

1. Do you consider the thin flat-bottom comb foundation, 10 feet to the pound, a success to use in comb honey?

2. How many feet to the pound is in the lightest Dunham foundation for boxes?

3. What kind of foundation do you prefer for boxes, and also, what shaped starters do you put in, or do you fill the box nearly full?

Very little is said about what kind of foundation is best for the surplus boxes, also, the best shape to put it in the boxes. I wish these questions brought up before the National Convention.

D. W. Fletcher.

The following paper, as pertinent to the above questions, was then read:

Comb Foundation:

Its uses, and the Best for all Purposes.

It may not be out of place to introduce my subject with a reference to Mr. Frederick Weiss, the first in America to conceive and manufacture a foundation machine, and with whom your writer has spent many instructive and interesting hours. The occasion of my last interview with him was during the earlier part of this season, when "old Fred." obtained permission from the

Superintendent of the Cook County (Illinois) Poorhouse, to visit the city and obtain some reading matter, with which to relieve his long, monotonous hours. Old and feeble—his mind, fast passing into dotage, reverts back to its struggles with the first machine, to release the waxen sheets from the rollers; next, to his overcoming the difficulty with soapsuds; then wanders in clouded dreams to his two boys whom last he saw and parted from in the fatherland; then come his beautiful, airy castles built in the future, all of which he expects to realize when he recovers from his rheumatism, and regains his robust strength of fifty years ago. Poor "old Fred!" how forcibly did he bring to mind the lines in the school-books of years ago:

"Pity the sorrows of a poor old man,
Whose trembling limbs have borne him to your door;
Whose days are dwindled to the shortest span—
Give relief, and heaven will bless your store."

Although soon to pass to obscurity, and the records of his genius blotted out "unhonored and unsung," his invention will receive the praise of being one of the greatest of the age.

It would be tedious to review all the various styles of foundation presented to bee-keepers since "John Long" first introduced "old Fred's" product to the public, and the claims of the many machines now upon the market for its manufacture. We have had foundation with triangular shaped cells, with flat-bottomed cells, with high side-walls and with no walls at all; with linen, cotton, wood, paper, tin-foil and woven-wire for a base; while latterly we have had flat-bottomed foundation, with fine wires imbedded therein, and frames of foundation with wires pressed therein. But one by one these are passing away. Experience is demonstrating that a medium heavy sheet—say, 4½ to 5 feet per lb., with a thin base or septum, and heavy prominent side-walls or lines, is the most desirable for economy in the use of wax, and rapidity in comb-building by the bees; and whether it be distinguished by the name of Dunham, or Given, or Bourgmeyer, or Ferris—or call it what you will—the above characteristics will be predominent in the foundation of the future. My experience has been that such is less liable to sag in the hive, the bees will accept it much more readily, and, unless honey be coming in very rapidly, every particle of the wax will be utilized. It is not unusual for such foundation to be built out sufficiently for storing and the queen's use in 12 hours, in colonies in a normal condition; while one writer claims (and I do not doubt him) that 10 hours is sufficient time with him for prime swarms to build out sets of combs.

For some purposes, it is possible wires may be desirable, but I have never had occasion to use them, except by way of experiment, and cannot now imagine why I should want them, whether they be imbedded and dipped with the sheets, or pressed in by a machine.

I am not persuaded as to the desirableness of full sheets of foundation in the surplus boxes. I have frequently tried flat-bottomed thin, but never with the most gratifying results, and I am long since convinced there is but little gained by its use—certainly not enough to compensate for its cost and trouble. Perhaps the style commonly called Dunham, if made thin enough—say, 8 to 10 feet to the pound—would be more desirable. But even this I should not use, could I afterward detect the boxes in which it was employed.

I am convinced from numerous experiments the past season, that the brightest, yellowest, purest, freshest foundation is much the cheapest. It is possible for good, unburned wax to be dark or brown, but it is hardly possible for burned, or mixed, or impure wax to be a bright yellow; therefore, if for no other reason than a guarantee of its purity, I would select the latter. It is certainly a fallacy to suppose that very dark foundation is less liable to sag in the brood-chamber, and this erroneous impression can only be accounted for by the fact that the bees are less liable to crowd upon it in such immense numbers; or that the darker wax is cheaper in price, and hence "the wish is father to the thought."

In choosing wax to manufacture, always select the brighest, cleanest and purest—it will be cheaper and give better satisfaction, even though you pay 1@2c per lb. more for it.

In ordering foundation for the brood-chamber, specify what you want. First, state what frame you use, giving the size; second, that you want foundation with a thin base, and the bulk of the wax in the side-walls; third, that you want it to run not less than 4¼ nor more than 5 feet to the pound. If for use in surplus boxes, full size, or nearly so, all the above conditions should be observed, except in weight, which should run about 8 feet per pound. Judging from my past experience, I would not advise the purchase of any foundation with a flat base, depending upon the bees to work it into proper shape; sometimes they will do so, but more frequently they will not.

In conclusion, while ready to endorse all that has been said by manufacturers and dealers of the desirableness and utility of good foundation, I am half persuaded that perfection has not yet been reached in the machines employed in its manufacture. Undoubtedly, many of the best machines on the market are sold at as small a margin of profit as their manufacturers can afford them; yet, whether the machine costs $50 or only $5; if it cannot be run to make up the wax into good foundation at a less expense than 15 to 25c. per pound, it is a practical failure. Many of the most prominent and successful apiarists are loth to advise the purchase of foundation freely because of its cost; but reduce the price, and thousands will use it who now cannot afford to; yes, thousands of bee-keepers will melt up all surplus combs at the end of each season, rather than trouble to make them moth-proof, and buy or exchange the wax for foundation when wanted!

I have an abiding faith in the genius of the American bee-keeper, and believe that his ingenuity will yet perfect and bring out, in the near future, a foundation machine which will make good foundation so rapidly and cheaply as to entirely supersede the use of old combs and comb starters.

Chicago, Ill. C. C. COFFINBERRY.

S. T. Pettit, Ontario, said he has no trouble keeping the combs free from moths. He places them in close, tight hives, piled above each other, with a newspaper placed between to keep all close. By this method they are never troubled with moths.

H. R. Boardman, Ohio, thought comb foundation was a very important subject. Last season he had about 600 combs built out from foundation, and there was neither warping nor sagging observable. He used no wires, but, instead, a cross-piece from end to end of the frame, then put in the foundation in two strips; this method virtually makes two combs in each frame; the bottom of the upper comb leaving passage-ways over the cross-piece to each side of the comb. He uses the best yellow wax.

D. A. Jones, Ontario, recommended foundation running 4½ to 5 feet per lb. He uses a Dunham machine, is well satisfied with it, and thinks there is none better.

C. H. Deane, Kentucky, has had no trouble preserving old combs, and for use in extracting thinks they are preferable to new combs built from foundation, as they are not so liable to injury in handling. He could indorse all that had been said in favor of the Dunham foundation and machine.

Mr. Boardman thought 4½ to 5 feet per pound the most economical weight for use in the brood chamber.

The following was then read on

Permanence of Bee-Keeping Industry.

All great achievements, whether in science or art, if traced back in their history, will be found to have sprung from small beginnings, and the perfected article is usually the results of the contributions of many minds. The wine and silk interests of this country are familiar examples.

In considering the stability of any industry it seems proper to give a brief outline of its rise, progress, present status, and its claims on the community for perpetuity. It is within the easy recollection of most of us here assembled, when boxes and log gums were the only homes provided for the industrious little bee and each year, as cold weather approached, a sufficiently number paid the penalty for their industry with their lives in order to provide their keepers' table till the next year should bring a fresh supply. There were very few consumers of honey outside of its producers—and indeed the product of the hive being usually a conglomeration of bee-bread, brood and cocoons, mixed up with many varieties of honey, was not very tempting to sensative palates. The little which was secured in fair order had to be sold at such prices that it was regarded as a luxury to be indulged in only by the rich, or by the apothecary for medicinal purposes.

With the rude appliances then in use, no progress was made nor was it possible, and he who should at that time have proposed bee-keeping as a means of gaining a livelihood for himself and family, would justly have been regarded as a first-class subject for a lunatic asylum. As for a *system* of *bee-keeping*, there was none, but each followed his own inclination, deriving his notions of managment from the accumulated verbiage of tradition.

Superstitions the most foolish were held, and practices the most unreasonable prevailed. Hardly a fact relating to the natural history, anatomy and physiology of the bee had been correctly stated. Some regarded the drones as females and the mothers of all the rest, while others regarded them as water carriers, and still others as a kind of police to defend the stores through the working season. The workers were regarded by some as males—others as females—others without sex, and still others as about equally divided in this regard. There was substantial agreement in but one thing, viz: that there was one king who ruled the whole hive with absolute sway, directing all its movements, and without whose presence work would at once cease. The combs were supposed to be made from the gum of trees and perhaps mixed with the pollen of flowers. The same absurd notions, with a few honorable exceptions, were embraced in all that related to this subject. Such assumed premises, as a correct theory carried into practice would necessarily produce just such results as we have enumerated.

This state of things, although in the near past, may be well denominated the "Dark Ages" of bee-culture in America, but as all dark nights have their mornings, so in this case, a bright sun at length loomed above the horizon in the person of Rev. L. L. Langstroth, proclaiming that the night of superstition had ended and the morning of improvement had dawned. The hive and the book which he brought out at this early day contained a correct basis for all future improvements, and in connection with other eminent services to the cause of bee-culture, have rendered his name dear to every lover of the honey bee, and will be held in sweet remembrance long after he shall be gathered to his fathers. Yes, they will form a monument more enduring than the marble which will mark his last resting place.

The foundation once laid, enterprising and progressive minds were not slow in building thereon. Rock has been laid upon rock and stone added to stone until the structure has assumed enormous proportions and with no adverse influences, the "cap stone" will ere long be brought with shouting of "grace, grace unto it." The past thirty years have added more valuable information in regard to a correct practice based on the true theory of bee-keeping, and have added a greater number of useful implements than 5,000 years which preceeded this period.

The advent of the movable frame hive in America marks the beginning of this wonderful era. The honey extractor soon following, swelled the tide immensely. The invention and successful use of comb foun-

dation in its many forms completed the "trinity" of inventions out of which has sprung all the other useful appliances and practices which, taken together, constitute bee-keeping the pleasant and profitable pursuit it is to-day. Under the influence of the new system, botanists have ransacked the entire floral kingdom and have given us a catalogue of honey producing plants, of such varying habits, that the wise apiarist may fill up all the gaps occuring between the regular periods of bloom of the plants usually depended upon for honey, and thus secure a constant flow of nectar during the entire season. By many experiments made by competent bee-keepers under every variety of climate and circumstance, the wintering problem is so far solved that the progressive apiarist expects to see his bees come forth bright and lively in the spring, with the same confidence that he does his other farm stock.

To secure to our bees the benefits arising from the commingling of the blood of different races no pains have been spared, and no expense or toil has been deemed too great; and the magnificent result is, that all the qualities which go to make up the perfect honey bee, such as vigor, endurance, long tongues, swiftness of flight and sweetness of tempter, America to-day stands without a rival. The abundance of the floral supply and quality of the various varieties of American honey also excel that produced in any other portion of the known world; so that wherever it has been introduced, whether in our own or foreign lands, it has never failed to create a demand for more; and, although the quantity produced is now reckoned by barrels, tons, and car loads, exceeding hundreds of times the quantity produced by our fathers, the prices obtained on an average are remunerative, and from causes already enumerated, will, doubtless continue to be. The fear of stings, natural stupidity, the lack of scientific education, together with the lack of that *peculiar* adaptation for the work, forming a kind of "protective tariff" for the honey produced in other respects, will always render his business free from the ruinous competition observable in nearly all the other industries of our country. With the vast accumulation of correct knowledge and appliances adapted to every need, the intelligent bee-keeper of to-day feels as certain of a fair return for his labor as though engaged in any other occupation.

Viewing then this industry from the standpoint of its growth on correct principles as distinguished from its former career when founded on absurdities, and taking into consideration the universal appetite and craving demand for its delicious products, we should at once conclude that it is destined to attain a vigorous old age; but there is another side to this question which it is well to consider as affecting our future markets for honey, and consequently the permanence of the industry itself. It is a well-known fact to those who read and are posted on the production of sugars and syrups that, with a few trifling exceptions, *all* the sugars produced during the past three years and now being produced, are adulterated on an average of 25 per cent. on the whole amount, and the various syrups differing in quality, principally in name and amount of coloring material used, are adulterated still worse; that as a consequence all the refiners unwilling to engage in the nefarious business of slowly poisoning the public, and not being able to sell a pure article of sugar or syrup at the same price of this *vile*, though fine looking "stuff," left the business in disgust, and to-day the whole field is occupied by these counterfeiting scoundrels. Honey has thus far to a very large extent escaped their ravenous "maw," but as many of their victims, either through warnings in the newspapers, or the failing health of their families from the use of this "trash," have been casting about for a change and are rapidly substituting honey, these villains are becoming alarmed and are extending their field of operations to include this industry also. In a recent law suit among the members of the firm of the Buffalo Grape Co. for the recovery of $450,000, the fact was brought out by the affidavit of one of the firm, that one bushel of corn produces thirty pounds of grape sugar, or a still greater quantity of glucose, and that the refuse of each bushel brings 8 cents for swine feed. Now, it must be apparent to every honey producer, that if his pure unadulterated article is to compete with honey mixed with this substance so that the mixture will contain from 50 to 75 per cent. of glucose (the usual proportions), his business as a bee-keeper will soon be closed out, and this new industry, with all its triumphs in the past and hopes for the future, will sink into oblivion. We do not make these statements to discourage bee-keepers, but to stir them up to a sense of their danger, while there is yet time to avert so great a calamity; but we cannot avert it by ignoring its existence. It, therefore, behooves bee-keepers everywhere to at once drop their silly questions of who shall or shall not deal in supplies; whether or not we shall destroy our present bee papers that we may establish on their ruins OUR Journal, &c., and with one grand co-operative purpose unite in solid phalanx to oppose the onward march of this giant enemy to our industry.

Let the National Association originate some trade mark and label to be adopted by all the minor associations in all the States.

Let producers pledge themselves to sell only to dealers who will become members of this association, and in turn pledge themselves in good faith to carry out all its requirements.

Let vigilant committees be appointed in all the different associations, whose duty it shall be to watch for and report all violations by the members, whether dealers or producers, of the association rules, and when convicted let it be known through all our mediums of communications with the public.

Let those who are qualified write frequently for the country papers, setting forth the extent of syrup adulterations, the danger to the community by their continued use, giving simple methods of detecting the poison such as the tea or alcohol test; also setting forth the merits, in all points, of pure honey as a substitute.

Let tracts on these subjects be published by the National Association, unaccompanied by any man's advertisements, for gratuitous distribution, and in the meantime petition our State legislatures for the enactment of laws for our protection, similiar to our New Jersey law, under which Prof. Hasbrouck and our District Attorney are soon to commence suits against the most prominent adulterators of honey in Jersey City, and which will, doubtless, result in a glorious victory of this first application of our new law.

Let the bills presented to our Legislators be in the interests of HONEY ALONE, for if framed to cover other sweets, they will be sure to meet with defeat, on account of the immensity of the interests of the opposition and the amount of money they would willingly sacrifice in their defense.

In offering these plans to this Convention, we do not arrogate to ourself any wisdom above our brethern, and shall gladly accept and work for any method by whomsoever proposed, which seems calculated to advance and protect the cause of bee-culture in the United States. A. J. KING.

New York.

President Newman remarked that it was exceedingly encouraging to witness the spirit in which Mr. King had written, and of his kind allusions to the Rev. L. L. Langstroth, whom some unwise enthusiasts are now trying to misrepresent and abuse. Mr. Newman said that he had not the pleasure of even a personal acquaintance with Mr. Langstroth, but revered him only for his noble work and devotion to the science and art of bee-culture. Mr. King's allusions to the necessity of adopting the newest and most perfect methods, as well as to keep abreast with the times in every department of apiculture, he regarded as the very key-note to success. The speaker very heartily endorsed the position taken by Mr. King, that "the living issues" of to-day demanded of us something else besides bickering and strife, begotten of envy and malice. In the great work before us, he was happy in the thought that generally we were alive to our duty and *united*. Himself, the editor of the BEE JOURNAL in Chicago, he had been gallantly supported on his right and left on the platform at this meeting by the editors of *Gleanings in Bee-Culture* and the *Bee-Keepers' Instructor*, the two Ohio bee papers. He had noticed in the auditorium the editor of the *Bee-Keepeer's Guide*, of Indiana, who was taking a lively interest in the discussions, and the paper just read was from the editor of the *Bee-Keepers' Magazine*, of New York, and he noticed on the programme an essay from the editor of the *Bee-Keepers' Exchange*. These six editors are now all arranged in solid phalanx, ready for the fray, and will give the common enemy a fierce and determined battle. This is not only flattering to the Society, but inspires all to look for a successful and triumphant issue. He congratulated the Society upon the self-evident union, peace and harmony now prevailing, and earnestly desired that it might be permanent. He felt happy that his term of office as President concluded under such auspicious circumstances.

Samuel Fish, Ohio, thought this Convention should take some action regarding legislation enactments to prevent the indiscriminate adulteration of honey now so largely practiced.

President Newman, in some elaborate and convincing remarks, endorsed Mr. Fish's views.

D. A. Jones, Ontario, explained that they had a law to punish adulterations in Canada. Not only was the party perpetrating the adulteration punished, but also all parties keeping the adulterated article on sale.

H. G. Burnett, Indiana, moved the appointment of a Committee to draft resolutions condemnatory of adulterations, and especially looking to the adulteration of honey. Carried unanimously.

The following committee was then appointed: Dr. J. P. H. Brown, Georgia; Dr. N. P. Allen, Kentucky; Chas. F. Muth, Ohio; Melville Hayes, Ohio; H. G. Burnett, Indiana.

Rev. L. Johnson, Kentucky, thought the permanence of bee-keeping depended much on the intelligence of the bee-keepers and the enlightening influence of the bee-papers and Conventions may accomplish all in this way. He thought bee-keeping an occupation as well adapted to females as to the sterner sex, and any woman of intelligence and nerve could run an apiary with profit and success, and in many instances could contribute more to the support of herself and family in that manner than in any other he could call to mind.

Mrs. L. Harrison, Illinois, being called up, said she found she could sell a pound of honey for just as high a price as any man could. Most avenues of employment were entirely closed to women, or, if they were given work in competition with men, it was always at reduced wages. She instanced a case where a woman dressed in male attire had obtained work in a tailor shop, thus to sustain herself and family, at regular wages, but when her sex was discovered she was obliged to don female attire and go to work at reduced wages. In keeping bees it was different; a woman's bees would get just as much and just as nice honey as those kept by a man, and

it would sell for quite as much money in the market.

W. Williamson, Kentucky, chairman of committee on nomination of officers, reported the following as the unanimous recommendation of the committee :

President—Dr. N. P. Allen, Smith's Grove, Ky.
Recording Sec.—Ehrick Parmly, New York.
Corresponding Sec.—C. F. Muth, Cincinnati, O.
Treasurer—F. A. Dunham, Depere, Wis.

STATE VICE PRESIDENTS.

Alabama—J. A. Austin, Huntsville.
Arkansas—Dr. W. W. Hipolite, Devall's Bluff.
California—C. J. Fox, San Diego.
Colorado—J. L. Peabody, Denver.
Connecticut—H. L. Jeffrey, Woodbury.
Dakota—Calvin G. Shaw, Vermillion.
Florida—Dr. J. M. Keyes, Iola.
Georgia—Dr. J. P. H. Brown, Augusta.
Illinois—E. J. Oatman, Dundee.
Indiana—Rev. M. Mahin, Huntington.
Iowa—E. D. Godfrey, Red Oak.
Kansas—D. P. Norton, Council Grove.
Kentucky—W. Williamson, Lexington.
Louisiana—Paul L. Viallon, Bayou Goula.
Maine—J. H. Spaulding, Augusta.
Maryland—J. M. Valentine, Double Pipe Creek.
Massachusetts—Dr. E. P. Abbe, New Bedford.
Michigan—Prof. A. J. Cook, Lansing.
Mississippi—Rev. J. W. McNeil, Crystal Springs.
Missouri—P. P. Collier, Benton City.
Nebraska—George M. Hawley, Lincoln.
New Hampshire—J. L. Hubbard, Walpole.
New Jersey—Prof. J. Hasbrouck, Bound Brook.
New York—A. J. King, New York.
North Carolina—T. B. Parker, Goldsboro.
Ohio—A. I. Root, Medina.
Ontario—D. A. Jones, Beeton.
Pennsylvania—W. J. Davis, Youngsville.
Quebec—Thomas Valiquet, St. Hilaire.
Tennessee—S. C. Dodge, Chattanooga.
Texas—F. F. Collins, Cuero.
Vermont—Jacob Ide, Passumsic.
Virginia—J. W. Porter, Charlottesville.
West Virginia—E. W. Hale, Wirt C. H.
Wisconsin—Christopher Grimm, Jefferson.

On motion, the report was accepted and the committee discharged. There being no other nominations, on motion, the Secretary was requested to cast the vote of the Society for the above named nominees.

Dr. N. P. Allen, President elect, being invited to the chair, made some very felicitous remarks, thanking the Association for the honor conferred, and congratulating it upon its prosperous condition.

Mr. Williamson then offered the following resolution, which was adopted unanimously :

Resolved, by the North American Bee-Keepers' Society, in Convention assembled, That the thanks of this Association are due, and are hereby tendered Thomas G. Newman, Esq., our retiring President, for the zealous, untiring and successful manner in which he has conducted the affairs of this Association ; and we further thank him for his great liberality in traveling through Europe in the past two years at his own expense, thus being the means of opening up avenues of trade for American honey, and advancing the interests of American apiculturists in a manner that could not be reached by any other method.

The following was then read by the Secretary on

The Coming Frame.

This may seem a strange subject for an essay, and yet it admits of much study and I expect will receive sharp and severe criticism. I sometimes think that some of our bee masters fail to get at the real meaning and value of our conventions. As our National Congress and Senate meet for the purpose of ascertaining the means of benefitting our country. So our conventions should be the storehouses of knowledge; and as the educators of the fraternity at large, should decide all questions of debate justly and candidly, laying to one side all personal prejudices and personal interests, conceding to the welfare of the whole. Should we do this I think that it would lead us to adopt a standard frame and box. I would not for one moment advise even (as some do) the throwing away our frames and hives now in use, as no one who has fitted up his apiary wishes or needs to change his frame, but might change the honey box. Every intelligent bee master can succeed with almost any of the frames in use. I would suggest and urge the necessity of a standard frame in view of the following facts :

1. That apiculture is growing so rapidly in importance that it has taken its place as one of our national industries and beginners are being added to our ranks every day.

2. Because the many-shaped packages in which our honey is put on the market injure its sale, and the frame used to a great extent governs the above.

3. Because in the sale and interchanging of colonies, nuclei, &c., odd shaped frames cause much vexation and trouble.

4. Because I believe that if we choose the proper frame as a standard, we shall do away with this vexation, aid to systematize apiculture and benefit the fraternity.

This brings me to the question of what frame shall we choose as a standard ? and why ?

Bees when left to follow their natural instincts store the honey above the brood, building and adding comb below and retreating (so to speak) as they store above, until (as records show) they sometimes build comb 7 feet in length. From this standpoint some have originated the deep frame. This would do well enough if we did not wish our honey stored in boxes, but we do ; and in view of this fact, that well-known and justly-honored pioneer of apiculture in America, the Rev. L. L. Langstroth, originated the shallow frame. While many frames have been originated to suit different tastes, both deep, square and shallow, Mr. Langstroth has lived to see his frame promise well to be the coming frame ; and if you ask why, let me answer :

1. Because being shallow, it admits of successful top boxing ; thus following the nrtural instincts of the bee.

2. Because it admits of easy and rapid manipulation.

3. Because being shallow it brings the heat down close to the cluster which is very essential in spring breeding.

4. Because it is the best summer frame in use.

5. Because there is a greater demand for this than for any other frame, and demand regulates supply.

6. Because it can and will allow of successful wintering on summer stands.

7. Because its use encourages the use of the regular 4¼x4¼, and prize boxes; and because this will help regulate our honey market.

One word as regards wintering; it is becoming a fact that out-door wintering will be the popular method; in this I am supported not only by my first teacher in apiculture that veteran queen raiser H. Alley, but by many of our best bee masters, all of whom are capable of sound judgment and whose testimony is solid. I am prepared to state and can demonstrate that we can winter successfully on the summer stands with the Langstroth frame. As knowledge on the subject of apiculture advance, we find men like J. H. Nellis, H. Alley and many others, whose testimony cannot be impeached, adopting the Langstroth as the standard frame. These are men who have held in favor the deeper frames, but are now of the same opinion as myself. I began with the American frame, and have used besides the Bay State about 8½ wide by 16½ deep, the standard Quinby, and one 10½ x15, and after studying them all have become thoroughly convinced that the Langstroth is the best frame for general use and should be adopted as the standard and is the coming frame.

I would again urge the National Convention to take notice of these remarks and render a just and impartial decision, keeping in view the fact that it should work for the interest of the whole mass of bee-keepers.

I am sorry that I could not be with you and debate upon and help to decide these questions of interest. Our conventions are the educators of the thousands of bee-keepers who await eagerly the report of our deliberations.

After showing some persons who were just embarking in bee-keeping, who had only a few colonies in box-hives, how often they are bewildered by the large array of hives, frames and boxes, and would say "I am puzzled; what would you suggest?" This shows again the importance of a standard frame, and of system.

The time is coming when, even though we may not now adopt a standard frame which governs the honey box, &c., the demands of the people will force the fraternity to do so. Let us then take the laurels and honors as a Convention, of recommending a standard frame. But lest I exhaust your patience, I will close, wishing you all a pleasant and a profitable meeting. Thanking you for your patience and also taking this means of shaking hands (so to speak) with many of your number whom I met at the National Convention, at New York and at the Syracuse Convention.

SILAS M. LOCKE.

Canajoharie, N. Y.

Adjourned till 1:30 p.m.

AFTERNOON SESSION.

Time and place of next meeting being in order, Rev. L. Johnson nominated Lexington, Ky., as the next place of meeting, supporting his nomination by an eloquent and forcible appeal to the North American bee-keepers.

Several other places were nominated, but all were successively withdrawn, and Lexington was unanimously selected, amidst much enthusiasm, as the place for the next annual meeting.

The Secretary then read the following paper:

Honey—Past, Present and Future.

The subject we have chosen for a few thoughts is a vast one and one that cannot be dealt with justly, in the few moments that this Convention can spare for the reading of it. However, we will endeavor to condense it to suit the time allowed and patience of our hearers.

First we look at the word honey; it is derived from the Hebrew word "Ghoneg" and means delight. We find it in Webster or Worcester meaning "a sweet, viscid substance, collected and elaborated by bees from flowers and stored in waxen cells."

We have divided our subject into three parts, our first is, "Honey in the past." As we look back to find a starting point, we are led step by step through a lapse of more than 3,000 years, to the mention in the Bible of the land of Canaan which was said to be a land "flowing with milk and honey," and the first mention of it is where Jacob instructs his sons to carry down a little honey to the man in Egypt, for a present.—Gen. 43: 11. We read, also, of sucking honey out of the rock, and honey from the carcass of a lion, honey upon the ground, brooks of honey, etc., and, in fact, honey is among the first things we read of in God's Word, and must have been one of the common products of the land occupied by God's favored people. We cannot say anything as to the method of securing it. We know that John the Baptist lived upon locusts and wild honey, and we gather from that and other facts connected with Bible history, they understood how to secure the honey, if not to manipulate and domesticate the bees. From these ancient times we leap forward to the present century, and our own day and generation. It is not many years since we were using liquid honey strained from a mass of dead bees, comb and bee-bread, secured by a wholesale massacre of the colony. It is only a few years since we were able to place our comb honey in the market in a commercial form, it bringing prices, which, if obtained now, would make us all rich in a short time. It is only a little while since we have been able to know just the kind of flower our honey was gathered from, and to secure it before it became mixed with other kinds.

The rapid advance of genius, coupled with our American in-born propensity for improvement and money-making, has brought us to our present improved and beautiful style of marketable honey. This brings us to our second division of our subject: "Honey at present."

Honey at present is considered among the luxuries, having drifted into that position from the neglect of those who made a busi-

ness of producing it, and from the fact that cane sugar being produced in such quantities that ma le it cheaper, and of course supplied the demand for sweets among those whose tastes were only too easily satisfied by something, no matter what, as long as it was sweet and cheap. Among the ancients cane sugar was unknown, and no doubt honey was the common and only known sweet used by all. We presume the secret of our people neglecting to produce honey is, that the majority of them are afraid of the "business-end" of the bee, or sting; another fact is that too many have made the producing of honey merely a side-issue, and have not used the modern appliances and improvements which would enable them to produce it in much larger quantities and in a very much more convenient and handsome shape, for we presume there has been no time in the history of the world when honey was stored in such a convenient and handsome style as at present. We have not only the small convenient box of comb honey finished and complete, a thing of beauty in itself, but we have the pure honey in a liquid form, extracted from the combs by the modern machine known as the mel extractor or honey-slinger, giving us the pure virgin honey free from all the impurities of wax, bee-bread and dead bees. Honey in this form is certainly one of the healthiest and purest syrups we can place upon our table, enjoyed by our children who naturally love it, and ourselves, because we know it is free from the adulterations which form a very prominent ingredient of the many forms of syrups of the present day.

Our modern improvements and appliances have brought honey into this desirable position, and also to the great reduction in the price of it now, compared to the past. We now come to consider our third division of our subject: "Honey in the future."

As we remarked in the outset, our subject is a vast one, and our paper does but touch upon the outskirts of its vastness; we would weary our hearers should we attempt to dig into the cells or go even beyond the cappings of this subject. What we can say about our third division of the subject is only of course conjecture on our part, although judging from the rapid strides of the past few years, and from the fact that apiculture is growing in interest, and the production of honey becoming one of the great industries of this country (mostly brought about by the dissemination of knowledge and experience through the bee papers), we predict for honey a place second to none among the products of the land.

We have about reached the acme of success, as far as the package of comb honey is concerned, although we may make an improvement if we can reach a uniformity of the package. To do this would in a large measure necessitate a uniformity of hive or brood-frame, which would be a grand thing if it could be brought about; but we can hardly hope to do this as long as the old adage holds good: "Many men of many minds." But to come back to our subject, honey in the future is destined to take its appropriate place. This will be brought about through an increase of production and a corresponding decrease in price; also, through the villainous adulterations of cane sugar and syrups, and the honesty of bee-keepers in producing a pure article of honey. There will be temptations to resist. In fact, they are being resisted now (and we hope successfully by every bee-keeper in this country), in refusing to countenance the use of grape sugar and glucose as an adulteration of honey. We are to take pride in the fact that our honey is a pure article; we are to endorse it by placing our name and address upon each package, thus showing that we are willing to vouch for its purity. If we do this, we need not fear to keep step with advanced apiculture. We need not fear to run our bees for extracted honey, if by so doing we can secure double the quantity, and then *feed it back* when the flowers fail, and have it stored into beautiful comb honey.

Should we refrain from using our ingenuity and brains because some unprincipled fellow may learn a way to cheat? Should we not teach our children to write, because some fellow may learn to write and commit a forgery? Out upon such a principle! What are our bee papers for, but to disseminate knowledge and exchange thought and experience, and thereby advance our industry to where it belongs among the industries of the world? It has been said "he is a public benefactor who has been the means of causing *two* spears of grass to grow where *one* grew before," does not this hold good in our business? Certainly it does, and we mean to continue, God helping us, to be an *expert* and to teach others so to be.

But are we not digressing? The last division of our subject is one that we all are intensely interested in, and to sum it up in a few words, for I fear I have already wearied you, let us do our best to get all the honey we can; use all the means that are legitimate and best in doing so; have it in the most approved and salable shape, and sell it to responsible dealers who will pay us the best price for it. Let us not be satisfied with the *past*, nor content with the *present*, but reach forward to a glorious *future*.

Canajoharie, N. Y. J. H. NELLIS.

Dr. J. P. H. Brown, Georgia, chairman of committee to draft resolutions condemnatory of adulterations, reported the following resolutions, which were unanimously adopted:

Resolved, by the North American Bee-Keepers' Society, in Convention, That we most sincerly deplore the almost universal system of adulterations in articles of food, and particularly all attempts at adulterating honey, or the use of glucose in any manner whereby it may by any possibility become incorporated with honey.

2. That the practice of adulterating honey heretofore placed upon the market as "strained" honey, has worked to the detriment of all honest honey producers, and thrown great discredit upon our product.

3. That we demand a stringent law be passed by the general Congress of

the United States, imposing heavy penalties, or making it a criminal offense to so adulterate, or vend adulterated honey.

The following paper was then read by the Secretary:

How to make Honey a Staple Product.

Some arrangement to bring our honey market on some reliable foundation, as other products are sold, is very desirable. As matters now are, we have nothing to guide us; there are so many bee-keepers who take no bee paper and do not keep posted in any way respecting the crop of honey or its value, who will rush into the market with honey out of season, and take any price "sharpers" feel disposed to pay them, and thereby establish a market price at about one-half its value. This has much to do with the interests of the honey raiser; it is so often done that many honey buyers know that the old maxim is just as true as ever: "Fools are not all dead"—and many of them watch for such honey men and will not talk with those who they know are well posted in the value of honey.

Last week I was in the city of Utica and called on a honey dealer, I offered to show him the report in the BEE JOURNAL and other papers, but he would not look at it. He replied he did not care anything about the report—he could get all the honey he wanted. He said a man was there on the previous day with one pound boxes and offered them at 14c. per lb. You see his offer was little over one-half of what honey is worth. His actions spoke louder than words that "fools were not all dead," and it was for that class of men that he was watching to obtain his honey.

Can there not be something done to keep such inexperienced men out of the market and prevent the honey sharpers from getting our honey at half its value? I hope this question will be fully investigated by the National Convention. R. BACON.

Verona, N. Y.

C. F. Muth, Ohio, gave the following review of honey-production: It is now only 12 or 15 years since our honey yield averaged about 10 to 15 lbs. per colony. I remember well that I managed to sell from season to season all I had produced. To my sales were added occasionally a few boxes of comb honey purchased from neighboring farmers. My ambition was modest like my production. When I obtained the first 500 lbs. in a season, its production was an event as unexpected as the sale of it. Comb honey came to our market in almost every shape. Combs built in large boxes were offered for sale, as well as promiscuous-looking combs, cut out and placed in barrels, stone jars and wooden buckets. People desiring to buy honey had to take it in such shape as it was offered.

Mr. Muth said times had changed. Since the honey extractor has come into use, we have not only increased our production manifold, but we are also producing the finest honey we ever dreamed of. We produce the choicest comb honey in any desirable shape, and our extracted honey cannot be excelled. As honey-yielding flowers bloom at different times, we can keep separate almost all the different kinds, such as fruit-blossom, locust, clover, linden, buckwheat, etc. These are about all the principal honey plants in our neighborhood, not mentioning a large number of fall flowers, such as goldenrods, heartsease, etc. By means of the honey extractor we have produced a large quantity of honey all over the country during the last 10 or 12 years. Our markets were over-stocked and prices went down until they became unsatisfactory to the producer and dealer. Low prices, however, brought on a demand. Manufacturers using sweets found honey to be a finer and purer sweet than molasses or syrup, and as cheap as any, and when we had no idea of selling a barrel of dark honey to anyone a few years ago, we sell now a few hundred barrels of it in a comparatively short time. Extracted honey has become a staple article, and is getting in better demand with every year.

The price of an article is a matter of consideration with every business man, and the price of honey is no exception to this rule. I find, for instance, that dark honey will sell to manufacturers at about 7@10c. per lb., according to quality and quantity purchased, when they would not buy any at a higher price. Our best comb honey will retail sowly at 25c. per lb.; it sells well at 20c.; but everybody buys it at 15c. Comb honey will remain a fancy article; only when choice white, and in neat shape, will it bring a good price.

The last 3 years have been discouraging, as our product hardly paid for our labor; but, if times gone by are a criterion, this has been an exceptional period. A poor honey season was an exception, and not the rule, and it is my conviction that bee-keeping is a paying business if we can realize 10c. per lb. for extracted, and 12@16c. per lb. for comb honey, for the reason above given, that the demand is more than proportionably greater.

This was followed by a paper on the

Best Methods for Marketing Honey.

It has been estimated that there are some 300,000 persons who keep bees in North America; an average of 10 colonies each, will place the number of colonies at three millions; and if these produce 25 lbs. each, the honey product amounts to 75,000,000 of pounds, valued at $10,000,000.

The wax product, if each colony give but one pound, worth 20 cents, amounts to $600,000.

If these figures are substantially correct, then the "best methods" for placing this enormous product upon the market, is a subject of vast importance to honey producers. Any method that will add one cent per pound to the marketable value is worth to them three-quarters of a million of dollars; and any error of management, causing a reduction of one cent per pound it to them a corresponding loss! We should ascertain what the market demands and then dilligently apply ourselves to the work, in order to reap the reward of "well doing," and rejoice in the labor of our hands.

Honey in the comb is a luxury—a fancy article—and our first care should be to produce it in such a manner as to command a fancy price. It must captivate the eye of the consumer, and tempt him to purchase. To this end does the confectioner assort and classify his product; for this object, bolts of muslin and rolls of dry goods are adorned with lithographs of luscious fruit; for this cause fancy boxes and toilet articles are embellished with fancy labels, exhibiting enchanting faces with bewitching smiles; and to tempt the gentlemen, cigar boxes and tobacco wrappers are gaily decorated with beauty's charm.

Honey should also be placed upon the market so as to attract and tempt the consumer to purchase it. To this end comb-honey should be put up in single-comb sections, all combs being straight and evenly built (which can only be done by the use of separators) and labeled with the kind of bloom which produced it, giving the producer's name and address. It should be put up in uniform crates, and not veneered, *i.e.* the combs inside should be just as good as those on the exterior of the crate. Small packages sell the most readily, 12 in a crate is usually sufficient, and always the most desirable for the jobbing trade.

The apiarist should give his personal attention to its crating, grading and shipping, so that he may be positive as to the details, should any question, involving these, be raised by the consignee. The inexperienced and careless ones are always a detriment and sometimes ruin the market, for their more careful and experienced neighbors. They take an inferior grade of honey, put up in irregular and soiled packages to market early, just to get a little money, and sell for any price offered; and this often settles the price for that locality and season, and the attractive honey is either sacrificed to their carelessness, or shipped to another market.

If shipped away to market it must not be packed in straw or chaff; but put in small crates containing a single tier and placed with the top bar downwards, which is the strongest way, and will prevent much breaking down. Ship by freight for the express-age will be so high that it will take off all the profits, and is, in nearly all cases, liable to as much damage as when sent by freight. See to its packing in the car, wagon or vehicle, and place the combs lengthwise to the engine but crosswise to the horses, and give direction not to have it unloaded on trucks, but invariably to be unloaded by hand.

Extracted honey should be capped before extracted so as to be sure that it is ripened, and then put into small kegs made of sugar pine or spruce, and to hold from 100 to 200 lbs. to be of ready sale and more easily handled. Keep the honey from the different blossoms separate, it will enhance the price.

The demand for honey is increasing fully as much as its production. There need be no fear now of overstocking the market. It is being regularly used in various manufactories in the liquid form, and its demand is steadily increasing the world over. In the comb it is finding its way to the festive boards of thousands of families where it was in former years, scarcely ever seen. The markets of the world are not only open to it, but the demand is far greater than the present supply.

This is exceedingly encouraging to the apiarists. We have never doubted the final success of exertions put forth to develop the honey markets in the Eastern Hemisphere, but some have done so; the burden of their cry has long been that "honey is not a staple, and never can be"—"the markets are ov rstocked"—and "we have too many honey producers." But at last, one of the "chiefs" of these "children of fear," has heard "a still small voice," whispering in his ear, that electrifying and consoling word "*Success!*" Now all the stars of lesser magnitude, that revolve around that luminary, will soon hear the same "whispering angel," and rejoice in the abundant success in store for all honey producers. THOMAS G. NEWMAN.

Chicago, Ill.

S. T. Pettit, Ontario.—What is meant by sugar pine?

Mr. Newman.—A species analogous to Norway pine; however, the latter will do, or almost any pine, being careful to scald thoroughly before putting in honey, that it may not be tainted by a turpentine taste.

The following essay, bearing upon a similar topic, was then read by the Secretary:

Extracted vs. Comb Honey.

"Which is the most profitable, extracted or comb honey?" is the question to be discussed. According to our experience, extracted honey is the most profitable; for it is beyond the smallest doubt, that bees can give at least twice as much of extracted as of comb honey. Yet, some bee-keepers find extracted honey difficult to sell, and it will be the same as long as their customers will doubt the purity of extracted honey, and as long as they will refuse to admit that extracted honey is more healthy than comb honey, since the last contains beeswax, which is indigestible.

Since I became a bee-keeper I have been struck with the inconvenience of comb honey; for besides giving less pounds, we have to take into account the amount of work to prepare the sections, the number of sections which are unsalable from being sealed only in part, or soiled by a few cells containing pollen, or by the depositing of eggs by the queen; if we add the care of

packing these sections, the risk of breakage and loss by leakage during the transportation; the risk of moths on the combs; the soiling of the sections and of the floor by a few broken cells, etc., we are compelled to admit that these drawbacks are far from being compensated by the price, which is about half as much more than extracted, and consequently quite inadequate to counterbalance the loss, the work, and the difficulties.

One of the main objections which prevents many bee-keepers from working their bees for extracted honey, is the difficulty of getting the people accustomed to buy their article. This objection is serious.

About 12 years ago we had 300 lbs. of extracted honey to sell. I sent my son to town with a sample of clover honey. It was in July. The honey was clear as crystal, and as light in color as the finest amber. Well, my son entered a drug store, The man took the vial in his hand, raised it between his eye and the window—"Is that honey?" said he, with an inquiring eye; "I don't buy such stuff!" Of course, our honey was too pure for a man accustomed to buy strained honey, always mixed with pollen and crushed larvæ.

To get rid of our honey we had then to put it in the hands of a grocer, to be sold on commission, and more than one time our honey was in part returned in April. But, by our persistency, our article has become known around us, and we can sell 15,000 lbs. of it more easily than 1,500 lbs. 12 years ago.

The next difficulty to overcome was the granulating of honey. The adulterators, unable to make candied honey, took great care to accuse our honey of being adulterated, because it was candied. By our labels we have overcome this difficulty, and now we can readily dispose of our entire crop at paying figures.

Perhaps our means of procuring this honey will not be out of place here. For years we have been accustomed to take out of our hives, in the spring, all the drone combs. These combs are not melted, but are fixed in frames, and put in the upper half-story. As some of our customers want comb honey, we replace about ¼ the frames with sections filled with light comb foundation, made expressly for that purpose, from the finest and lightest beeswax, to avoid "fish-bones." The bees use, in the lengthening of the cells, the wax produced by the young bees when they are too well fed, and the cost of our combs is thus greatly reduced.

As soon as our first story is about half full, we put a second story, similarly prepared, under it, and sometimes a third story on our best colonies. We have on hand several thousands of drone combs, thus preserved for years; in fact, we have enough of them to give room to our bees till the honey crop is at an end, and do not extract before. By this means our honey is thoroughly ripened, and hardens completely in winter.

Remember that ripe honey can be kept for years without fermenting to a damaging extent. Our customers are now so much accustomed to candied honey, that the sale of liquid honey would be to us as difficult now as the sale of granulated was in bygone years.

Of course we consider as bad the advice given some time ago, by the editor of *Gleanings*, to bee-keepers, to boil their honey to prevent granulation, before putting it on the market. Besides being difficult and expensive, this boiling process changes the true characteristic of pure honey, and lowers it to the level of the adulterated article.

Let us be honest in our dealings, offer to the people a good, ripe and well-presented article, and we will soon and forever overcome all the difficulties. CHAS. DADANT.

Hamilton, Ill.

D. A. Jones, Ontario, has always sold his crop in neatly labeled tin cans, holding 2½, 5 and 10 lbs. each.

C. F. Muth, Ohio, knows from long experience, it is not necessary to wait for bees to cap their honey before extracting it. As soon as the cells are all filled, it is ripe enough to extract. When there is a doubt, let the honey stand in any open vessel, exposed to the air, and it will soon ripen.

Mr. Newman said they use a sun evaporator in California. I do not care how it is ripened, but must insist upon it being done.

Foul Brood.

C. F. Muth, Cincinnati, gave the following elaborate method of eradicating foul brood: It is gratifying to observe the growing attention paid by bee-keepers in this country to the dangers of the spread of foul brood. Utah has a bee inspector in every county, a State officer, drawing pay from the State. It would be a move in the right direction if other States would imitate our Mormon brethren in this especial particular, since bee-keeping has become so important a factor in the common wealth of the country.

It is very essential for every bee-keeper to know his position in regard to foul brood, should it make its appearance in his apiary, as the pleasures and profits would be destroyed if this pest is permitted to become predominant in his neighborhood. A country like ours, where an abundance of forest trees afford homes for absconding swarms, is very favorable for the spreading of the disease. There would be no end to foul brood in a neighborhood after a number of bee-trees become infested, as every bee running over those devastated combs for years afterward, is liable to take home to its own hive the germs of the disease. Let us, therefore, be on our guard.

Foul brood is a disease, imported, and spreads by contagious spores. It is of vegetable growth—a fungus. Little specks of it, hardly discernible with the naked eye, are carried along on the legs of the bees running over infected combs. Wherever one of these spores drops into

a cell containing larva, the larva dies, changing soon into a brownish, putrid mass, settling into the lower corner of the cell, and foul brood begins its growth. It happens that larvæ are affected and die just before the cells are capped, or while the bees are performing their usual labor, capping, unconscious of the trouble below. We find these cells, a few weeks afterwards, perforated at or near the centre, and easily recognize them as diseased. Larvæ in uncapped cells, killed by this disease, settle into the lower corner as a ropish substance, and dry up in a hard, coffee-colored mass. They are easily recognized.

Bees continually running over these cells will soon carry the micrococcus to a large number of others containing larvæ, until every comb is affected. The putrid stench becomes so strong in the hive that often the bees swarm out in despair, unable, however, to rid themselves of the curse of foul brood adhering to their bodies. The disease does not affect old bees, but, killing off the young, soon decimates a colony.

Micrococcus dropped into empty cells, or cells containing honey or pollen, may remain dormant for years. As soon, however, as the queen deposits eggs in such cells, and they develop into larvæ, the trouble commences. I have had a case where the spores from an infected hive were hidden among the fissures of a plank exposed to the weather for more than 12 months, and were ready to do the mischief the following season when I put a hive on that plank. The bees ran over it, and dragged in with them the germ of foul brood.

Dr. Schœnfeld has taught us the true nature of foul brood, and that its growth is destroyed by salicylic acid, while Mr. Emil Hilbert found the proper proportion and application whereby foul brood is destroyed without injury to animal life. Mr. Hilbert applied his medicine by means of an atomizer, subjecting every comb, cell and bee to a spray of the same. Every infected cell had to be disinfected, as also every comb and frame, and the inside of the hive and adjoining surroundings. Several thorough treatments of this kind will cure a colony of foul brood. I have cured quite a number of them in this manner, and speak from experience. My *modus operandi* has been given in an essay to the meeting of our Association in Chicago, which makes a repetition here unnecessary. See page 502 November No. of American Bee Journal, 1879.

The only objection I have to the above method, is that bees from other hives visit the combs under treatment in your hands, or the open hive before you, and take the spores home with them, and by the time that one colony is cured we may find a number of others affected. So it was with me in spite of the greatest care. Mr. Hilbert treats his diseased colonies in a closed room, so that no bees from other hives have access during the time of treatment.

I had come to the conclusion that it was the cheapest and safest remedy to destroy an infected colony, with all the brood, combs, and every bee belonging to it. However, I learned a better method this summer. A neighbor offered me, in March, two empty hives and combs, the bees from which had died during winter and were robbed by other bees, as he stated. I was convinced at first sight that those bees had died of foul brood, and sent a warning, to look out, to my neighboring bee-keepers, one of whom discovered one of his hives affected afterwards and burned it up. In April I discovered two colonies in my apiary affected with the disease; I brimstoned the bees the same evening, burned up the combs and frames, and disinfected the hives. Another colony showed it in May. Feeling sorry to kill a beautiful queen, besides a very strong colony of pure Italians, I brushed them on 10 frames of comb foundation, into a clean hive, and placed over them a jar with food, as I shall describe hereafter. The old combs and frames were burned up, and the hive disinfected. This feeding was kept up until all the sheets of comb foundation were built out nicely and filled with brood and honey. It was a beautiful colony of bees about 4 weeks afterwards, full of healthy brood, and with combs as regular as can only be made by the aid of comb foundation. Four more colonies were discovered infected, one after another. All went through the same process, and every one is a healthy colony at present. I was so convinced of the completeness of this cure, that I introduced into one of these colonies my first Cyprian queen sent me by friend Dadant.

All are doing finely now, and no more foul brood. Should, however, another one of my colonies show signs of the disease, it would not be because it had caught it from its neighbor which I attempted to cure, but because the germ of foul brood was hidden somewhere in the hive, and of late had come in contact with a larva.

The formula of the mixture is as follows:

16 gr. salicylic acid,
16 gr. soda borax,
1 oz. water.

I keep on hand a bottle of this mixture,

so as to be always ready for an emergency; also a druggist's ounce glass, so that I may know what I am doing. My food was honey, with about ¼ weight of water added. But we may feed honey or sugar syrup, adding to every quart of feed an ounce of the above mixture. Bees being without comb and brood, partake of it readily, and by the time their comb foundation is built out, you will find your colony in a healthy and prosperous condition.

Thus you see foul brood can be rooted out completely, and without an extra amount of trouble, provided you are sufficiently impressed with its dangerous, insidious character, and are prepared to meet it promptly on its first appearance.

When an atomizer is used on combs and larvæ, the medicine should be only half as strong as given in the formula.

In answer to a question, Mr. Muth gave it as his opinion that foul brood is imported into this country, and not of American origin.

Mr. Boardman differed with Mr. Muth; he is satisfied he contracted one case of it, which he cured by destroying the combs and putting the bees in a new hive, after which he sprinkled them thoroughly with carbolic acid.

In answer to the question, whether foul brood existed in this country prior to the importation of foreign bees, Mr. Muth said he did not know.

T. F. Bingham, Michigan, said foul brood existed in this country previous to the importation of Italian bees.

Dr. Brown, Georgia, said the late Mr. Quinby mentioned foul brood before importations had been made from Italy.

After some further discussion on the subject, Mr. Bingham stated that foul brood emitted a very strong and disagreeable smell. After the death of the young bee, the mass becomes very putrid and ropy in attempting to remove it from the cell, thereby making it impossible for the bees to clean out the combs. Mr. Bingham then moved a vote of thanks to Mr. Muth for his valuable discovery, which was carried.

The following paper was then read by the Secretary:

Apicultural Failures.

I recognize such a factor as "luck" in every branch of business. By "luck," we mean, circumstances and conditions materially affecting our successes, and over which we have no control. Outside of this class of conditions, there are a vast number over which we can exert more or less influence. What we know about these conditions is called science. As we are learning more and more day by day, science is expanding and the domain of luck contracting, each day. Still I may say that there will always be enough of the uncontrollable, called "luck," to make or break the wisest of business men. Every bee-keeper no doubt, has had a taste of both good and bad "luck."

The judicious business man of any calling makes the very best of it in either case. When "luck" favors with good weather and a consequent large yield of honey, then is the time to exert ourselves and see how large we can make it. "When you have help is the time to pitch in," is the old adage.

When you get a good crop, do not come to the conclusion that "bees work for nothing and board themselves," and rush it into the market early and all at once, thus bearing the price down to a much less figure than you can produce it, in an average season. Do not do this, for we do not want to lose your company so soon. Remember such seasons as 1869 and 1880, when thousands of colonies come home to board.

Last October and November white comb honey in sections, sold in Chicago at 12½c.; four months later it sold at 18 to 20c. for the same. By that time the glut in the market was over. Indiscretion on the part of producers brought about that condition of things. Honey is not a perishable commodity but on the contrary can be kept from year to year. When it is below the cost of production there will surely come a corresponding reaction in prices. Hold for that time, in which case you will help to hasten it.

To succeed in any pursuit it is of vast importance to have a mind clear of superstition, to the end that we may "see things as they am," as Billings puts it. Our writers of "gush," looking at one side of the picture, tell us that all that is needed is a little capital, a few new ideas, and then fix up the hives (chaff hives) and put on the boxes (prize boxes) and go about your business (not bee business) and in the fall take off a few tons of honey and its all (most all) clear gain. Just so.

But that does not equal agriculture. All one has to do, to raise corn, is to buy some cheap land, just skip over it with a plow, then drop in the seed, and may be tickle it once or twice with a hoe, and it grows itself (nights, Sundays and all, rain or shine) and all you have to do is to step out in the beautiful autumn, and glean the golden ears, which always bring cash. Like the hod-carrier, who said, all he had to do was to carry a little mud up a ladder; "the men up there did all the work."

When we compare the price of honey with the price of bees, we come to the conclusion that something besides bees is requisite in the accumulation of a honey crop. Yes sir, a clear head, lots of nerve, close attention to details, and a disposition and ability to do hard work, are all required to succeed in this business. May I not add, to succeed in making merely a living at it?

A large majority fail, who attempt bee-keeping, and many more would, were it not for the fact of some profits gained by helping others on to the royal goal. Who ever heard of anyone buying out an apiary complete. Could I have made such a purchase twelve years ago (I mean have bought out an apiary complete, one up to the highest standard of that day) I need not to-day care

for my own sake, whether honey was worth 1 c.or 20c. per pound.

No, we prefer to "kinder" grow into the business, and it costs us two or three times as much money and time as it would to purchase and commence where some one leaves off.

It will not do to depend upon directions found in bee papers and books. Many of the writers of books are *practical* failures and have strength only in the literary part of the pursuit. The contributors of our bee papers are "many men of many minds." Many of them unsuccessful as honey producers. Some dishonest, and writing as experiments what are only theories; others governed by personal spleen, or mercenary motives; and all this in spite of the best editors and publishers that we can have. Bee papers and books are of most value to him who has the ability to cull the chaff from the kernel.

A successful method of getting apicultural lore, is by visiting such apiarists as you would guess might be as well fixed for the accomplishment of the end in view, as any. Sometimes it is quite difficult to explain some points, in the apiary, that can be brushed away with a breath on the floors of conventions, or from the pages of papers.

In my limited travels, I have been many times surprised and heartily disappointed, at finding scarcely a spark, behind a great volume of smoke. Again have I been happily disappointed at finding a "mute inglorious Milton," truly on the royal road to success. I call to mind my last journey of a few days ago; I found that on the road I should "pass Mr. B's skeps." I thought I should like to see how many "skeps" Mr. B had. I did so, and what did I find? A young man with a lady-like wife, and two sweet children; little house and honey room; large apiary and last but not least, a head full of thoughts, of a clear solid and practical nature and entirely free from superstition, and besides the best income of colonies and honey I have yet heard of in Michigan.

"Here we are" said he, "trying to make a business of honey producing as a specialty. What do you think?"

"That you will succeed," said I, without hesitation.

He will succeed because he is up with and a little ahead of the times. Because he has the judgment to keep within his means, and keep perfect system and order all about him. Because he had the keen insight to see where and how others had failed; I tell you it made me feel happy to see such progress. No supplies to sell. A sign on the honey house said "honey for sale." I never was more pleased to find one of my supers overflowing with basswood honey, than to see his neat shipping cases well filled, during this poorest of all seasons.

I like to see coats, hats, dresses and bonnets, large and small, together with all necessaries and luxuries common with the family, all bought with the products of the apiary. If I have a weakness for honey-producing as a specialty, please excuse it.

This friend is in the country and do you not think it would be a splendid achievement for our pursuit, if some non-producing enthusiast, could only persuade Mr. B's farmer neighbors to cut into his splendid field?

I left this friend not only a happier but wiser visitor. Many such there are in this broad land, who have more apicultural knowledge, than disposition to write on the subject. We get their experience only by visiting them.

I am much pleased to admit, that the outlook for the apiarist is more encouraging to-day than for years past. The export trade proposes to hold us at, or above 15c. per lb. for our sections crated and laid down in the city. This is certainly good to fall back on when our home market is too full to bid higher. This season we shall get 20 to 25c.

Now bee-keepers who would succeed, it rests with you to know that a divided field will not pay anyone, and act accordingly. If you expect to avoid an "apicultural failure," choose an unoccupied field (for many such there are, and good ones too) and then if you are possessed of integrity, mental and physical tact, with an ability and disposition to work, success is surely yours,

JAMES HEDDON.

Dowagiac, Mich., Sept. 13, 1880.

D. A. Jones, Ontario, explained an important discovery made by him for obtaining surplus honey in the brood-chamber, whereby he thinks as much comb honey can be obtained as extracted. It consists of a division sheet of perforated zinc going across the hive and removable at will. The perforations are of such a size that the worker bees can pass through but the queen cannot. This sheet of zinc is placed behind the first three or four frames in the hive. The queen has access to the frames in front of the zinc, but not to those behind it. The worker bees will always deposit their honey in the middle of the hive if possible, and with the zinc sheet in, the queen cannot get at the middle frames to deposit eggs. Consequently the frames in front of the zinc get filled entirely with brood and the frames behind the zinc entirely with honey. If a little is deposited in the brood frames it is of no consequence the object being to get the honey frames free from brood. As soon as a brood frame has been laid full of eggs it is lifted out and put at the back of the hive for the eggs to hatch out, and another frame is given to the queen. The gain by this method is immense. Not only can box and extracted honey be obtained from the same hive, but the quantity deposited is increased greatly from the absence of brood and pollen in the honey frames. The zinc sheet can also be used to prevent swarming, if there should be any such signs at an inconvenient time: by placing it at the entrance of the hive the queen is shut in, and of course the swarming does not take place while the work goes on as usual.

T. F. Bingham, Michigan, gave the following address:

Wintering Bees North and South.

Is the subject which has been assigned to me; not because I am master of the subject, but because I am not. The fact that I shall not exhaust the subject, but shall say just enough to provoke a hearty discussion and call everybody out, is the reason I have been selected—probably.

Every bee-keeper, and many other intelligent people, are aware that bees have periods of activity and periods of repose, and that while bees are presumably as busy as a bee, they are just the most lazy, idle and vindictive insect known, when out of employment. When there is nothing to do they do nothing but speculate. They are on the lookout for a nice job. They are very tractable and have a keen eye to business. But while they have this practical turn, and are often pugnacious about it, they never make smokers, or house apiaries, or complicated chaff hives, for their own use.

In no country or section of the world is the flow of nectar continuous through all periods of the year; hence even in the tropics, periods substantially corresponding to winter exist; though in such a limited degree as to require practically no attention. It is in the northern belt lying between 37° and 47° north latitude, that we find winter in its nobler sense—winter worth consideration as a leading factor in apiculture and sherry cobblers.

In New England, New York, Minnesota, Wisconsin and Iowa, cellars entirely under ground have given the most uniform and satisfactory results; while in Michigan, Ohio, Indiana, Illinois, etc., surface protectors, such as house apiaries and chaff packing have given good results. The latter plan under the stimulus of complicated and expensive hives, has received much attention, and while the results have not been uniform, they have been generally satisfactory. In that part of the winter belt of which Kentucky and Tennessee afford fair illustration, a straw, cotton or wool mat, 2 or 3 inches thick, placed upon the frames of shallow hives, renders the wintering of bees a matter of certainty; while in Alabama, Mississippi, etc., no special winter protection is required.

Though I believe a cotton seed mat or mat of unginned cotton would be of great value on the frames of shallow hives. By shallow hives I mean all the popular frame hives in use. Much more has been said, perhaps, than has been specially interesting, on the subject of protection of bees in winter, yet the matter of external protection does not wholly cover the ground of wintering bees in any section. Bees wintered in deep, dark cellars, consume less honey than by any other method. Bees, properly protected and allowed to fly when they are so disposed, consume more honey but require little or no spring care, except in removing the combs from those that have lost a queen or failed in the race of accidents to demonstrate their right to survival, when only the fittest survive.

First. To winter safely there should be a large average colony of bees.

Second. If to be wintered in the open air, properly protected. An average hive should contain 25 lbs. net of honey in November. If to this be added an extra set of combs, or the hive to be wintered is the equivalent of 2 cubic feet, it should contain from 10 lbs. to 15 lbs. more honey, exclusive of combs, pollen, bees and frames.

Bees in Kentucky, Tennessee, &c., require fully as much honey for winter and spring as in Ohio or Michigan, and, except in epidemic seasons, suffer about the same ratio or loss from death and other causalties. The entire loss of an apiary of any considerable size by winter epidemic in any of the Southern States, I believe, has never been reported.

Winter losses in any section of our country from November until the swarming season, will average 15 per cent., and in large apiaries the summer losses will average about the same, except in poor seasons. In poor seasons the average accidents are greatly diminished and the summer losses much less. T. F. Bingham.

Otsego, Mich.

M. Hayes, Ohio, offered the following resolutions, which were adopted unanimously:

Resolved, by the North American Bee-Keepers' Society, in Convention assembled, That the importation of pure Italian, Cyprian and Holy Land bees into North America, ought to be encouraged for the sole purpose of adding new and different strains of blood to that we already have.

2. That the strain of Italian blood we now have has reached a higher standard of excellence than is to be found in the native home of the Italian.

3. That queens reared from pure selected home-bred Italian mothers, should command at least as high a market value as those bred from imported mothers, where pure Italian stock is the sole object desired.

C. F. Muth, Ohio, addressed the Convention upon the subject of

A Rational Increase of the Apiary.

When in early spring the days begin to lengthen, the queen of every hive in normal condition begins to deposit her first eggs, if not induced to commence sooner by warm weather. At first she lays a small circle of eggs on each side of and in one or two combs, according to the strength of the colony. About twenty-one days after the first eggs are laid, the first young bee make their appearance. The circles of brood become larger and more combs are made use of.

Bees older than 10 or 12 days are poor nurses, and do all housework reluctantly. They are foragers. Young bees, however, are nurses and comb-builders and do all housework pertaining to the welfare of a colony, such as cleaning hives and combs, preparing cells for the re-

ception of eggs, honey or pollen, supplying the larvæ with food, etc. The brooding is carried on with more energy after the first lot of young bees are hatched. No colony is in a prosperous condition without the necessary quantity of young bees. Here many beginners miss it when making artificial swarms.

In this part of the country, where white clover is almost our only resource for honey, it is of the greatest importance that our colonies should be strong early. Bees require heat for brood-rearing and comb-building, and we can promote breeding very much by contracting the space in their hives according to the size of each colony, by means of division boards. Give them just as many combs as the bees can well cover, and the result will be sheets full of brood from top to bottom and from end to end. Without this precaution, we have about half as much brood or less, in as manner combs. Division boards should not touch the botiom by from ¼ to ½ inch so as to give the bees access to combs of honey placed on the other slde. An empty comb is to be added from time to time as the growth of the colony requires. The proper use of division boards in early spring is such a stimulus to breeding up, that perhaps none of us would do without them who give it once a fair trial.

When we have a number of colonies which are all treated alike, we find, in spring, always some much stronger than the balance, while other colonies are rather slow in increasing their population. If their queen is too old, or unprolific for some reason, she should be replaced by a better one. But it happens, sometimes, that no good reason can be assigned for the slow progress of such colonies and we are often surprised at their energy and rapid growth as soon as a few combs with hatching brood and adhering bees from a strong hive are added to them.

The proverb of old, "Make your swarms early," is, therefore, not my motto. But I strengthen up my weak colonies with combs of hatching brood and adhering bees from strong colonies in order to be ready for the honey harvest. As old bees only are foragers, it requires a large number of them at the time when flowers are yielding the nectar, to insure a full crop of honey; consequently, we should secure our honey-harvest first, and then make our swarms.

As a rule, bees will not swarm when the queen has plenty of room to deposit eggs, nor the bees to deposit honey. Without one or both of these requirements, a swarm may issue on any fine day. A queen, however, may be crowded in the course of a day, and we must prepare for an occassional exception to the above rule.

I use the Langstroth hive with 10 frames in the brood chamber, giving a capacity of about 1,320 square inches of comb. My greatest care in spring is to have these 10 frames filled with brood by the time that white clover commences to bloom, and I do not put on the second story or honey chamber until that object is accomplished. A comb filled with too much honey in proportion to the brood is exchanged for an empty one, and placed in the upper story of some hive, or used to build up a weak colony or a nucleus. The empty comb is placed next to the one on which I find the queen, who will not be long in finding it. When 10 Langstroth frames are filled with brood and the honey-chamber is put on the hive, at least partly filled with empty combs, bees will follow at once their natural inclination of storing above their brood, providing the flowers are secreting honey and weather permit. We should always make it a point of having at least one full comb in the honey-chamber reaching down to the brood, serving the bees as a ladder to run up on. This is an inducement for them to enter more readily.

There are now so many young bees hatching every day that the queen is kept busy refilling with eggs those vacated cells. Under these circumstances she will hardly ever enter the honey-chamber. If honey combs are emptied promptly with the extractor, or the necessary room is given them to build comb honey we shall have but few natural swarms. I am producing principally extracted honey, but it is due to the above management that I have had but one natural swarm during the last 15 years or more.

While our colonies are all very strong and bees busily engaged collecting honey, we may quietly prepare for the increase of our apiary.

Worker-bees are females imperfectly developed, and a perfect female or queen can be developed from a worker-egg. Accordingly, the bees select their cells, make them larger and longer, and supply them with the necessary food, so-called royal-jelly—a mixture of pollen and honey. In due time the cells are capped over.

The hive containing our choicest queen may be deprived of the same. The restless motion of the bees about their hive soon afterwards tell an experienced eye that they are missing their queen. In less than 24 hours,

however, their loss has been realized and the bees proceed quietly to repair it by commencing to build a number of queen-cells, each one of which occupies about as much room as 4 or 5 worker cells, having a downward tendency and shaped much like a peanut.

About 16 days after the eggs are laid, young queens emerge, but as bees will often form queen-cells over larvæ 5 or 6 days old, we may expect the first queens to issue on the 10th day after the colony was deprived of its queen. We should, therefore, form nucleus colonies the preceding day. We take from every strong colony (according to its strength) 1 or 2 frames with hatching brood and adhering bees, and replace them with empty combs or comb foundation. Two combs being sufficient for a nucleus colony, we place these in a hive between 2 division boards. All old bees having gone back to their old hives, we proceed to cut out queen cells, using a sharp, thin-bladed pen-knife, leaving ⅛ to ¼ of an inch of comb all around them so as not to injure the young queens inside. A queen cell is placed between the top-bars of the frames of each nucleus, in such a position that one may see on raising the cover whether the cell has hatched. The bees lose no time in fastening and taking care of it. In due time the young queen emerges, is fertilized, and begins her avocation as mother of the colony. She lays her first eggs generally 8 to 12 days after she is hatched.

We can now let her fill a few combs with eggs, or give some useful work to the colony, according to their strength and the season, such as the building of worker combs or the building out of comb foundation, etc.

When our honey season is over, we have kept our bees from swarming by the above method and by adding occasionally to our nucleus a frame of brood from our strongest colonies, without, however, depriving them of their force of honey-gatherers. If we have manipulated properly, a full crop of honey (according to the season) has been secured, and we have not been troubled with natural swarms. We may now strengthen up our nuclei with sheets of hatching brood and adhering bees from our old colonies which have an abundance of brood and stores.

As every swarm made is more or less at the expense of the honey harvest, we are satisfied with about 1 swarm from every 2 colonies. We make less if we can; but if swarms are the object, the most ambitious can satisfy themselves by the above method and the aid of comb foundation.

Another good method of starting queen cells is as follows: Divide the colony from which you desire to breed by means of a division board; lay the entrance blocks in the middle, letting the bees enter on each side of the portico, and leaving most of the capped cells on the same side with the queen. All communication between the two sides must be prevented. The queenless part will proceed to build queen cells at once, which will be ready to cut out on the 10th day and be placed in the nuclei as described above. At least on the 10th day we should begin, as the young queen hatching first will unceremoniously dispatch every rival queen in the hive, by biting open the cells and introducing her sting, thereby killing the young queen inside. We may continue rearing queens in the same hive all the season if we choose, and from the same queen, by changing her from one side to the other.

The Langstroth hive is well calculated for rearing in it 3 queens at a time, by means of 2 division boards, letting the side swarms fly out from side ventilators, and the middle swarm in front—3 nuclei in one hive. The advantage of this method is, that any of our combs answer for the nucleus, and after our 3 queens are laying eggs, we may make use of 2 of them, take out the division boards, and let the remaining queen take charge of the hive. This queen will be safe among the bees, which will all be of the same scent, and in the same condition.

C. H. Deane, Kentucky, offered the following resolution, which was adopted unanimously:

Resolved, That all bee-keepers in this Convention, who feel competent, are hereby requested to write for their local papers on the subject of bee-keeping.

Mr. Kramer, Ohio, with a hive illustrated a method by which he had succeeded during the past season in having two queens mated in confinement. It was done by carrying the queen above, into the second story, and placing a wire screen below; then the drones are imprisoned with the virgin queen in the second story, and a cloth covered over. Each day the cap of the hive is removed to allow the sun to shine on the cloth, and entice the queen and drones to flight in the hive. The thanks of the Convention were voted Mr. Kramer, and he was requested to write an explanation of his method for publication.

Mr. Jones presented the North American Bee-Keepers' Society with a Cyprian queen, the same to be placed with Mr. C. F. Muth, the bees to be tested for superiority by him, and a report to be made.

THE AMERICAN
BEE JOURNAL
Devoted Exclusively to Bee Culture.

Vol. XVI. CHICAGO, ILLINOIS, DECEMBER, 1880. No. 12.

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Editor's Table.

☞ Those who remove from one locality to another, should notify us before moving, and have their BEE JOURNAL at the new post office by the time they arrive there. Delays in this matter may lose several numbers of the JOURNAL.

We shall next year give a resume of all the matters of interest contained in the monthly bee papers, as soon as they are received. Our readers will thereby obtain *all* the *cream* of the current articles, no matter where they are first published. Of course we shall give due credit, and shall kindly criticise the articles to the best of our ability.

☞ By a private letter just received from the Census Bureau, we are informed that the Tenth Census Report when published will contain full details of the production of honey and beeswax in the United States. This was by us suggested to the Bureau a year ago, and will be very valuable to bee-keepers and others.

☞ Our Index to Correspondents contains 541 new names which were not in the Index for last year. These have nobly assisted in making the BEE JOURNAL so interesting during the past year, and show its increasing patronage and usefulness. Now let all take fresh courage and endeavor to make the next volume still more useful, interesting and instructive.

To Our Friends.—If every subscriber could make it convenient to send the name of another subscriber with his own, the already large circulation of the BEE JOURNAL would be doubled for 1881. Any one sending six subscribers will be entitled to a copy like the club free for 1881.

Now is the time for the friends of the BEE JOURNAL to show themselves. A friendly word spoken now will be of more value than at any other time for a year to come. It will be our greatest aim in the future, as in the past, to elevate the profession of bee culture, to its proper place among the industries of the world. To this end we shall devote ourselves, by unremitting energy and devotion—ever looking to the producer's interest, as well as to the advancement of the science and art of apiculture.

Our friends are earnestly invited not only to renew their subscriptions at once but also to suggest to their bee-keeping friends that the Weekly BEE JOURNAL will satisfy their wants in the line of bee literature and give them full value for the money invested. Reader: Shall the Weekly BEE JOURNAL receive your hearty co-operation and support? It is working for your interest, will you not, in return, work for its?

☞ The Dowagiac, Mich., *Times*, remarks as follows on "home industry:"

"Mr. James Heddon, our townsman, who has more colonies of bees than any other man in this State, is selling some $1,500 worth this fall. Mr. E. Nugent, of Strathroy, Canada, through his agent, Mr. Norman Conklin, has just purchased $800 worth. Mr. Conklin tells us he has just visited other apiaries and has been offered colonies at much lower prices, and decided upon taking Mr. Heddon's, owing to the value of stock, style of hives, and first-class condition of the entire fixtures. Thus we see what is worth doing, is worth doing well. Mr. Conklin is an experienced apiarist, having been with Mr. D. A. Jones, of Canada, for several years."

☞ We have received several numbers of the *Musical Journal*, published by Thomas Brothers, Catskill, N. Y., at $1.00 a year. It is a handsome monthly and exceedingly cheap.

Power of the Press.—President N. P. Allen writes thus on the subject:

"I am much pleased that the BEE JOURNAL is hereafter to become a Weekly; that looks like progression. We want fresh news to read, at least once a week. I wish it great success in its "new departure." I recognize the power and influence of the press, in building up all organizations for the promotion of knowledge in every department of business. It is through the influence of bee books and bee papers, that bee-keeping has assumed a respectful position among the industries of the world. I therefore hope, that you and the editors of the different bee papers in the United States, will all unitedly labor for the success of the National Association, and the cause of scientific bee-culture in general."

☞ We call attention to the complete indexes to be found in this number. These show that the themes contained in the Volume for 1880 have been full and complete—covering all the topics of interest to bee-keepers, and this volume will make a very valuable book of reference for every apiarist. Any who have not yet procured a Binder, can obtain one for 50 cents, and it will be a very good investment, where it is not convenient to get the volume bound in the usual way.

☞ A resolution, passed unanimously at the Cincinnati Convention, was, by an oversight, omitted in the last BEE JOURNAL. It ordered 1,000 copies of the Constitution and By-Laws, with the names of the officers and members for 1880, to be printed and mailed to every member. This has been done, and any one desiring a copy can obtain it from one of the officers, or at this office.

☞ The fifteenth annual session of the Michigan Bee-Keepers' Association will be held at Lansing, Dec. 8th, when the following subjects will be discussed: 1. Evidences of superiority in different races of bees; 2. Best method of wintering bees; 3. Best method of obtaining surplus honey; 4. Practical value and cost of comb foundation; 5. Poisonous honey, ancient and modern; 6. Prevention, danger and cure of foul brood. T. F. BINGHAM, *Sec.*

The International Food Exhibition.

On Oct. 13th, the great "International Food Exhibition" was opened in Agricultural Hall, London, England. In the report given by the London *Grocer*, we notice the following:

"One of the most prominent and conspicuous spaces occupied in the Hall is the large central stand, which is devoted to the exhibits of Messrs. Thurber & Co., of New York. The show made by this firm is an excellent and interesting one. Its chief feature is a large obelisk, 30 ft. high and 6 ft. at the base, and consisting of twelve different kinds of American canned fruits and vegetables. The obelisk is surmounted by a lamp containing a brilliant electric light. On the lamp is conspicuously painted the name of "Thurber." Samples of American cheese are placed at each corner of the obelisk, and there are smaller structures of a similiar kind surmounted by bronze figures. The design of Messrs. Thurbers' stand was the work of Mr. W. M. Hoge, their representative, and it certainly does him much credit, being striking and effective."

We are glad to see that the ingenuity and skill of Mr. Hoge is wining for him a reputation in England. He is an energetic worker, and will make himself felt, even in that great metropolis of the world. He gave an address at the Exhibition upon the rise and progress of the now enormous trade of canned meats. In the *Grocers'* report of which we find the following relative to this industry in Chicago:

"The history of the compressed corned beef trade has been almost like a romance. The Wilson Brothers started this in Chicago just after the great fire; and to show you how young this now important trade is, I will mention, *en passant*, that I bought the first case of these goods ever packed. The two Wilsons were then located in a small one-story wooden house on State street; now their factories are one of the wonders of the Garden City. Eighteen months after the business was started they were packing 960,000 2-lb. tins a month, and I doubt whether there is to-day an army, a city, or a vessel unprovided with American compressed corned beef."

To Mr, Hoge more than to any other man living, is America indebted for developing the great demand for American honey in Europe, as well as greatly enlarging the call for it at home. This must be admitted on all hands, both by friend and foe. In saying this, we but accord to him that credit which is his honest due.

A Christmas Present.—Now that the volume of the BEE JOURNAL for 1880 is complete, we find that we have a few complete sets of numbers, and shall immediately have them bound. As a volume of reference it will be very valuable to the beginner or the more advanced bee-keeper, and will be an excellent Christmas Present for a bee-keeping friend. Price bound in paper covers, $1.50, postage paid; in nice leather and cloth binding, $2.00. Those who wish one, should order early as there are but a few of them to dispose of.

☞ R. I. Barber asks: "Is it customary for commission men to return honey crates, after the honey is sold?" Certainly not; they usually sell it to retailers and the crate goes with it. When the producer sells directly to the retailer, they are sometimes returned, if it is so stipulated.

☞ Prof. Cook and family passed through the city on Nov. 10th, and gave the BEE JOURNAL a very pleasant call. He is much pleased with the Peet queen shipping and introducing cage. In the BEE JOURNAL for May, page 214, we stated that as improved, it was a good cage, and we are glad to hear that Prof. Cook is so well pleased with it.

Errata.—On page 527 of last month's JOURNAL several errors occurred, and were not discovered until too late for correction: 29th line from the bottom of the fist column read "form" instead of *forming*; 27th line for *produced* read "producer, which if protected." Second column, 23d line from the top, should read "Buffalo Grape Sugar Co."

Poisonous Wild Honey, Etc.

Mr. A. V. McDonald, of Aukland, New Zealand, writes thus:

EDITOR BEE JOURNAL.—Do you know of any case of poisoning from eating *wild* honey, gathered from poisonous plants. I saw the following in a New Zealand paper lately:

"A curious circumstance showing the danger which persons run from eating wild honey, occurred near Maketu. A native who was on the search for honey discovered a hive close to a wharangi bush, and having eaten plentifully of the honey, he was attacked after a few hours with violent pains similar to those resulting from taking strychnine. No medical assistance was available, and the unfortunate sufferer died in the course of the night. The bees had gathered their honey from the flowers of the wharangi, which is one of the two poisonous plants to be found in New Zealand. It is well that people should be aware of the poisonous nature of this shrub, so that they may prevent their cattle from eating its leaves. Its flowers produce abundance of honey, as is indicated by the botanical name *melicope ternata*. It is easily known by its large white-backed leaves. Its general habitat is at the edges of forests."

I notice in the New Zealand papers that an acclimatization society in the northern portion or this Colony are about to import humble bees in order to fertilize red clover. Will not the pure Italians do this as well as humble bees? Is the honey from red clover good? as I notice in a late number of the BEE JOURNAL that it is questioned. Also, will humble bees be an acquisition to a country perfectly free from them? Would the amount of honey they take be of any consequence to bee-keepers? I ask these questions because more than one pest has been introduced to the Colony through carelessness and ignorance. If in event of humble bees being objectionable I should like to mention it in time.

In answer, we would remark that Italian bees do sometimes work on red clover, and that it yields honey of excellent quality very plentifully. Any insect that works on red clover will naturally fertilize it.

We do not see wherein humble bees would be detrimental; they will certainly do their part in fructifying the plants on which they work. The honey they may store will be quite insignificent when compared with that secured by the Italian honey bees, and their irritable disposition will not be very tempting to men in general to handle them.

A colony of pure Italian bees was sent from the BEE JOURNAL apiary to New Zealand last summer, and we hear that it arrived in good condition. A correspondent from Canada sends us the following information concerning another shipment of bees to New Zealand:

"Italian bees (2 hives) have been successfully carried across the tropics from San Francisco to Auckland, New Zealand. They were shipped per H. M. Ship 'Australia' with damp sponges over the combs. Capt. Cargill keeping them in his own stateroom throughout the 20 days sea voyage, via Honolulu. They arrived in splendid order in Auckland, whence one hive was sent to Coromandel, in the Thames Peninsula, Auckland; the other being sent to Christchurch, Canterbury. New Zealand with its 113 varieties of flowering shrubs and trees, its mild and equable climate, is the Paradise of the bee. Judging by the rapid increase of the black stock introduced 40 years ago, there is every reason to think that the 'immigrants' will rapidly increase."

☞ Two queens in a hive is rather a rare occurrence, but none the less vexatious, especially when attended with such results as one lately found by Dr. N. P. Allen, of Smith's Grove, Ky. At the National Convention, he was presented with a fine queen by his old friend Benedict, of Bennington, O. On arriving home, he introduced her into a hybrid colony, after removing the old queen. Still having a young queen they desired no stranger, and killed her majesty from Italy. The Doctor now regrets not having made a *thorough* search, before introducing his valued queen.

☞ Mr. F. Benton says that hundreds of colonies of bees died in Cyprus, last summer, from the effects of burning hot winds. We never felt such burning hot winds as those that assailed us in Venice, last year. They came from the desert of Sahara, and the same have evidently troubled the bees in the Island of Cyprus.

This Number Ends the Volume.

This issue of THE AMERICAN BEE JOURNAL closes the volume for 1880, and calls for a few remarks. So far it has existed only as a monthly JOURNAL, and as such has gained an enviable reputation and influence. Its visits to thousands of homes all over the world has been greeted with an enthusiastic *welcome*, and its teachings on the all-absorbing subjects of "bees and honey," have been as anxiously looked for as they have been essentially adopted by apiarists not only in every State, Territory and Province in North America, but also in Europe, Asia, Africa, and Australia.

Neither war, pestilence, financial depression, partial failures of crops of honey, nor the foolish jealousies and merciless abuse of evil disposed persons, has been able to materially hinder its steady *onward* course. From year to year it has increased the number of its pages to give its thousands of readers and correspondents an opportunity to participate in an interchange of thought and fully discuss the various topics of interest that are ever and anon presenting themselves to the apicultural world for investigation and decision.

Still its capacity is too limited to accommodate all its correspondents, and its monthly issues are too infrequent to satisfy the longing for intercourse found in its many patrons, and to solve vital scientific questions frequently arising in the management of an apiary which require a more speedy solution. We have therefore determined to celebrate the twentieth year since its birth, by further enlarging its capacity and issuing it *weekly*. The bare announcement of this fact, in our last issue, has called forth a perfect storm of applause from its friends in the East, West, North and South; and multitudes of letters come by every mail, not only approving the plan of issuing the BEE JOURNAL weekly, but assuring us of hearty and continued support.

Each weekly issue will contain more than one-half the amount of reading matter heretofore given in the monthly—thereby *more than doubling its present capacity!*

In order to publish the JOURNAL at a price so low as to be within the reach of all, it becomes necessary to assume the popular form of weeklies, enlarging the size of its pages, so that each one will contain more than *three times* the amount of reading matter on those of this size. Eight of such pages will contain as much as 26 pages of like this one, equal to 1,352 of these pages in a year, instead of 592, the number contained in the BEE JOURNAL for 1880.

It will hardly be necessary to state that we shall devote all our energy and determination to make the JOURNAL even more interesting and instructive than it has heretofore been, if that is within the range of possibilities. Its record, character, power and usefulness, in the past, will be its guarantee for the future. When others have fainted and fallen by the way, it has made more determined efforts, by enlarging and improving—ever keeping in view the one grand object of its existence, that of furthering the interests of honey producers, by losing no opportunity to create a demand for this God-given product, opening up *new* avenues for its use, creating new demands and eager purchasers, both at home and abroad—thus benefiting every honey-producer.

With this issue several thousand subscriptions expire, and as we do not wish to lose any of them, we earnestly invite ALL to promptly renew, and thus save us the unnecessary trouble of taking the names from our mail list, and having to replace them again in a few days. Promptness in this will save us much valuable time and perplexity.

The WEEKLY will be published every Wednesday, and mailed on that day to every subscriber, for $2.00 a year, postage included; six months for $1.00; three months for 50 cents; making it within the reach of every bee-keeper. When bank bills are not available, postage stamps may be sent.

Each number being complete in itself, will be fully indexed; therefore, those who desire only to take a monthly, will be furnished the number published on the first Wednesday of each month, for **50 cents a year.**

Those wishing it semi-monthly, can have the numbers published on the first and third Wednesdays of each month, for **$1.00 a year.**

By this *elastic plan*, all may be accommodated who desire to invest 50 cents or more in a bee paper.

We give an extra copy to any one who will send a club of six for either edition; this is intended to pay for the time and labor of getting up the club. As before stated, we have abandoned the club rates, because they are an injustice to those who are not favored with an opportunity of joining a club, and are often the cause of dissatisfaction on that account.

Those who desire to second our efforts in giving them a weekly BEE JOURNAL, are earnestly invited to co-operate with us in every way to make it a success.

The Honey Season in Scotland.

Mr. J. Lowe, of Edinburgh, writes as follows to the London *Journal of Horticulture*, concerning the season of 1880 in Scotland:

The past spring opened promising enough considering the sad condition in which the previous autumn found our colonies both as regards population and stores. Inauspicious weather supervened, however, and being somewhat prolonged, breeding went on so slowly that in April little progress was perceptible, the older bees disappearing faster than the accession of the young from the brood cells, so that the weaker colonies dwindled away, simply from want of a sufficiency of bees to carry on the necessary work. More favorable weather followed in May and June, and breeding was again in full progress. Still swarming was not so general as in ordinary seasons, and honey-gathering was extremely meagre. Summer honey-yielding blossoms were not so plentiful as usual, and as time went on appearances became even more gloomy; so that bee-keepers like myself, who do not benefit by a proximity to white clover pasture, had a poor return of flower honey, and in some cases feeding had actually to be resorted to prevent starvation. But another chance still remained. The heather season was at hand. August commenced under auspicious circumstances; good weather set in early in that month. The bees were forthwith dispatched with all haste to seek their fortune among the Pentland Hills, and retrieve, if possible, the short-comings of the summer, and not for many years has there been a fairer prospect of success. The heath was rich and luxuriant, its purpled blossoms abundant and opening. Could the result under such circumstances, and with a continuance of good weather, be doubted? In a little over four weeks these comparatively empty hives were brought to their summer stands laden with golden stores, some having gathered from 40 to 50 lbs. of honey.

Scottish apiarists who have thus availed themselves of sending their hives to the moors and heath-clad hills will find them, even after the appropriation of some well-filled supers, in splendid condition for winter; and it may be hoped that having at last obtained, on the whole, one good honey season, it may be the harbinger of a series of prosperous years to follow.

Science.—The thirteenth number of the Humboldt Library of Popular Science is received. It contains Prof. Alexander Bain's new work entitled "Mind and Body; the Theories of their Relation."

The author brings to the examination of the immemorial problem of the philosophers the erudition of an accomplished scholar and the method of the modern scientist. His work may be regarded as the latest authentic expression of the modern scientific school upon one of the most important questions that have ever agitated the human mind. Price 15 cents. I. Fitzgerald & Co., publishers, 143 4th Avenue, New York.

☞ Sample copies of the Weekly BEE JOURNAL will be sent *free* to any names that may be sent in. Any one intending to get up a club can have sample copies sent to the persons they desire to interview, by sending the names to this office.

Correspondence.

For the American Bee Journal.

The English Honey Markets.

W. M. HOGE.

I send you by this mail a very truthful lithographic picture of the lady president of the British Bee-Keepers' Association, the Baroness Burdett-Coutts, as well as the young American gentleman, Mr. Ashmead Bartlett, to whom the Baroness is reported to be betrothed. This rumored marriage is the present sensation of London. Not only the great discrepancy in the age of Mr. Bartlett and his fiance, she being 64 and he 28, attracts attention to the happy pair, but the whole-souled liberality which has characterized the Baroness' stewardship of perhaps the greatest fortune in the world, and a constant and kindly disposition to alleviate the distress and suffering of those about her, has garlanded her name with the tenderest feelings of gratitude, and made all the nations feel that the world is better for her having lived. Mr. Bartlett is one of those noble souls that even men cannot help loving. It is reported that the marriage has been delayed in order that a legal question may be circumvented concerning the reversion of a large portion of the Baroness' heritage in case of her espousing an alien to the British crown.

The Dairy Show commences here on the 26th of next month, lasting four days. This is held under the presidency of H. R. H. the Prince of Wales. The British Bee-Keepers' Association exhibit at the show. Neighbour & Sons have new English honey stored in American sections attractively displayed in their windows, placarded 2s. (50c.) per pound—mostly unglassed.

Consignments made by California producers and commission merchants to Liverpool, London and Hamburg, which, although they netted a present loss at the time, have been pregnant of much good, for they introduced a superior article to the European markets, the consumers got hold of it and liked it. Thus the influence of the consumer is all the while working in the favor of American honey, grocers' customers come back saying they "want some more of that American honey." Thus you see the demand arises and this year English and continental buyers have either sent agents to, or employed agents in California to secure them honey, and here comes the verification of the old adage that in competition lies the life of trade, for the agents being unable to procure consignments have had instructions to buy, and in the presence of so many buyers, honey has been sold out-and-out without the necessity of consigning, and at prices that must be remunerative to the producers. The San Francisco markets quoted "Honey in demand with a strong upward tendency;" the bulk of the purchases have been moved forward by the "all ocean route" which requires 3 to 4 months to make; the parcels which were shipped the latter part of August and September will not be due here until about Christmas, too late I am afraid in many cases for packers to get it ready in jars, etc., for the Christmas trade. I have managed to get forward several car loads, which were sent early across the American continent by rail to the eastern states, and thence by steamer. This enabled me to come into the market here almost abreast with the domestic honey and realize a better margin of profit than I will on later shipments. Yesterday there was not a single pound of California honey remaining unsold. We sold none for less than 12 cents per pound in ton lots. Then first parcels have all been strictly white in color, and heavy in body. When the anticipated large shipments arrive the markets will no doubt be affected, and prices decline. There will be some white clover honey wanted, one or two sales having been made at 10c. per pound "free on board" at New York, but your readers should mark this is not for *basswood*, for which strange to say there is no demand; consumers are prejudiced against it and the preference or prejudice of consumers is the all-powerful factor which makes or unmakes trade.

It is with the greatest imaginable reluctance that I announce my despair of there ever being a satisfactory traffic in "prize" or the section honey. If they could be distributed everywhere with the combs safe and sound, they would be the most salable article ever introduced to the grocery trade, but to deal in them now, is to live in a perfect atmosphere of complaints.

The value of Chilian honey has remained nominal, pending late arrivals in this country, being placed upon the market; 2,789 barrels arrived per "Craignair," "Pole Star" and "Osceola."

London, England, Sept. 20, 1880.

[Mr. Hoge has our thanks for the very interesting particulars about the honey market, as well as for the lithograph mentioned.—Ed.]

For the American Bee Journal.

Honor Justly Bestowed.

P. P. COLLIER.

In looking over the proceedings of the meeting of the North American Bee-Keepers' Society at Cincinnati, I find many things of interest and practical utility—both to the young and old, to the learned as well as unlearned; indeed it would be a great blank in apiculture were it not for this association—this source of information indispensable to the interest of progressive thought, and progressive work in all branches of apiculture. I find that the subjects treated upon, were handled with great ability.

While for 2 years there has been at the head of this association one who has given it honor, credit and influence, both at home and abroad, one who has worked hard for the success of this Society, and one who every American feels proud of, and sincerely thanks for his success in building up this Association—while we regret to give him up, yet we feel proud to say that the selection made as a successor is every way befitting, and an "honor justly bestowed."

Dr. Nathan Perry Allen, of Smith's Grove, Ky., our new President, is one whom I have been acquainted with from my youth up; almost my first schooling was under his direction, and having been very intimately connected as neighbors and friends, I know whereof I speak. Almost my first lessons in bee-culture were learned in his apiary and under his instructions. Well do I remember his first colony in a "gum" given to him by his father for "good luck" on going to house-keeping. His first honey was taken in tubs, but a better day came, a "patent" hive (standing some three feet from the ground) was purchased, moth-proof, everything but a "real bee hive." But this was soon abandoned with many others until the Langstroth hive made its advent. This the Dr. seized, and to-day hundreds are using this truly meritorious hive, from his influence. The first bee orgaization I ever attended and the first ever in Southern Kentucky to my knowledge, was organized at his magnificent residence—the Southern Kentucky Bee-Keepers' Association," and through his labors as its president, "it became a power in the land," and its influence will long be felt.

The Dr. is one of the best dentists in southwest Kentucky; one of the best farmers, as well as his superior knowledge in handling and propagating fine sheep, cattle and hogs—indeed it is only necessary for an effort to be made and success seems to crown his labors. I believe the Association to which he is elected President will grow under his administration.

Our bees seem to be in fair condition for winter; early frost killed late buckwheat and it gave but little honey.

Mexico, Mo., Nov. 8, 1880.

Prairie Farmer.

Preparation for Winter Quarters.

MRS. L. HARRISON.

In what ever way bees are wintered, whether in a cellar, or in a receptacle built purposely for them, or upon their summer stands, the conditions should be such, that they will be dry at all times. Bees can stand cold but not dampness. Every one who owns bees, whether his colonies are few or many, should make the best use of the means at his command, to protect them against the severities of the coming season. In order for a farmer to sleep well, his farm must be well fenced and free from mortgage, and if the bee-keeper wishes to enjoy cracking jokes and nuts around his fireside, while there is a howling blast without, he must know that his "little pets" are comfortable.

We winter our bees upon their summer stands, and with the light we now have, we think in this locality, taking the seasons as they run, some warm and others cold, it is as good a way as any. To winter successfully the colony should be of fair size, with plenty of young bees and well ripened sealed honey, and last but not least, a good warm hive with a tight roof.

In lieu of theory, we will now tell our readers how we have prepared our bees for winter. The honey season did not close with us until the 15th of October; during the early part of that month, honey came in freely and as fast as a bee hatched, the cell was filled, until the main hive was almost solid honey. Fearing for the safety of our apiary, we procured an extractor, and threw out the honey from two combs of each hive, thus giving them room to rear young, and to cluster in. The first days that we were extracting, honey and pollen came in freely, but before we were through the season closed. After the cappings were drained, we fed them to the bees every fine day, and they sucked them dry, and no bad results by robbing followed.

After scrubbing until it was free from dust, some old, red and white Chinese matting, we cut sheets from it, of the

exact size to fit nicely when laid upon the frames over the bees. We have formerly used duck, and some sheets cut from an old ingrain carpet, but they were so covered with propolis that the moisture could not escape; but the matting is porous and yet will confine the bees below. Above the matting is placed a cushion, of about six inches in thickness, filled with chaff. We have learned by experience, that the best material for this purpose should be thin and open, yet strong enough to hold the chaff. Old coffee sacks answer the purpose well, but they are more expensive than muslin, as they cannot be made so readily on the machine. The sack for the cushion should be sewed up, and then the corners sewed across diagonally in such a way that the cushion will be square sided when completed. The idea may be obtained by pushing in the corner of a pillow. These cushions it cared for will last many years. We give a free circulation of air above the cushions, and contract the entrance—care is given that there shall not be any cold draughts through the hive.

We have several small colonies, that we have confined to the frames they can cover, by means of division boards, filling up the space between the board and hive with some warm material—these baby colonies are often our very best, the following season.

Peoria, Ill.

For the American Bee Journal.

Origin of the Albino Bees.

S. VALENTINE.

During the past season I have received many letters asking information in reference to the origin of Albino bees. As it is considerable trouble to answer each individually, I desire to answer through the BEE JOURNAL.

First, the Albino bee has been produced by crossing the light Italians. In July, 1876, I bought an Imported queen from Mr. Willman, of Pennsylvania, from which I produced Albino bees. I made a cross with some beautiful, large, bright drones from a home-bred mother (of what we termed Argo stock) and in August, 1877, I had several granddaughters of the Imported queen that produced about ¾ Albino workers. Those bees were the most vigorous I ever saw and yet were very gentle. I noticed in carrying dead bees from the hive they generally dropped them from 4 to 6 feet, whilst others carried them only from 1 to 2 feet distant.

My curiosity was aroused and I paid Mr. Pike a visit to see his Albinos, and I bought a queen of him (though she did not produce *pure* Albinos), I crossed again with her and then bred them pure, and I have succeeded beyond my expectation; having had them pure during the last two seasons and am proud to say that they are still improving. As honey gatherers they compete with the best, and as to beauty and docility or gentleness I feel safe in saying the world cannot surpass them. This is the origin of my downy and white-banded bees.

I received a Holy Land queen in September, whose progeny are much like Albinos. The queens and workers are very active (I fear they may not be as pleasant to handle). As I received her too late to make any test, I cannot say anything definite. I have several daughters of the Holy queen now laying, that mated with Albino drones, when they are tested I will report. I think it would be well if all the queen breeders that are experimenting on the new bee would report often and compare results. If they prove to be better than those we now have, the sooner we know it the better; and on the other hand if not as good, we cannot know it too soon.

Double Pipe Creek, Md., Nov. 4, 1880.

For the American Bee Journal.

The Bee-Keepers' Conventions.

JAMES HEDDON

While I regret very much that I could not attend either of the main Conventions of the season—no, not even the North-Western, at Chicago, only 100 miles away—I do rejoice that we have the means of knowing what "the boys" were about there.

First, in regard to the first discussion of the Chicago Convention on over-stocking. Most of the opinions given were of a mixed, "don't know" character. I believe them perfectly candid, for they coincide with my own *exactly*. The few that did have any settled opinions, mainly were on the side of the hopeful. I am sorry that they failed to give us any evidence of their belief that very many colonies can be kept in one locality with about the same profit as a small number.

The point, just where a locality is over-stocked and it becomes necessary for the producer to move off a part of his stock to a second apiary, is one of vital importance to the main honey producers of this country. Can we not get some practical information upon this subject?

Let us skip over to Cincinnati.

I am struck forcibly with the truths set forth in the President's essay on the "Best methods of marketing honey." The more so, because I have practiced just what is set forth there, hence I may say I know the truth of the statements made, until we come to the latter end of the paper, where he says that "the demand is increasing fully as much as the production." About this I do not know. For 2 years we have not had the average product thrown upon our markets. Bees, fixtures, determinations and sound ideas of production, have increased much faster than surplus honey, owing to the off-years for the latter product. How I wish the belief of the writer was a known fact, even to myself—how I would rejoice. But I am destined to "wait a little longer," and keep my hat on my head and out of the air, for the present. Near the close, the essayist informs us that some of the more frightened ones are beginning to hear the voice of success whispered in their ears, etc. Is not the tone of this sentence fitted to scare the timidly moral? I mean, to cause a man, when honestly convicted of an error, to still stick to his error, *knowing* now that it *is* an error, but frightened lest he be called "inconsistent?" I do not mean that the sentence was *intended* thus, but only ask if such would not be its influence? I have an adage like this: "He does best who predicts aright; he does *next* best who manfully owns right up to his mistake." How many of you who have written considerably for the JOURNAL, have gone back through a half dozen years and read over your own assertions consecutively? Were you not astonished at the honest errors, weaknesses, etc., that showed themselves in the greater light of progress? To be just right today about all things, is to idly sit and rot during the future. Where is the man who has written a "bee book," that cannot now look at it and wish he had a chance to say this and that over again? I think I know that Doolittle is wrong in regard to the merits of comb foundation. I feel sure he will have to come over among our crowd ere long, the same as many of us have done. When he comes, I hope to see him come head foremost, in the front gate; not coming feet first through a small hole in the back fence, where some one has by mistake left a board off.

I deem it a crime to try to mislead our fellows, especially in the art of production, and through the public print; and a *foolish wrong* to doggedly stick to a convicted error, and no one should ever knowingly lend any influence in that direction; "honor bright," should they?

"If I am right, thy aid impart
Still in the right to stay;
If I am wrong, teach me the art
To find that better way."

It should not be forgotten that the "children of fear" have not *yet* met those who overflow with enthusiasm, nor should it be forgotten that *each* squad is slowly but surely traveling toward the other. Had not the "scared ones" blown their horns, the "gushers" would have said: "Come where we are; you *must!*" and I tell you, it is not near as good ground to stand upon, as where we are both fast approaching.

Do you forget the kind of music we were invited to dance after? I quote the following, which I clip from the *Dominion Pet Stock Bazaar*, and copied by that paper from the *Indiana Farmer:*

"BEE PROFITS.—A hive of bees can, with ordinary management, be doubled every year for several years. Let us figure a little and see what the result will be, say for 7 years. In the fall of the seventh year we have 64 colonies; 20 lbs. of honey to the hive every year will be a low average for that length of time; 15c. per lb. is not high for honey; we have 2,540 lbs. for 7 years; that at 15c. makes $381, if I have made no mistake. The 64 colonies, at the low rate of $7 per colony, makes $548; this added to the value of the honey gives the snug sum of $820. This is no big thing, but is enough to pay all the trouble it costs. Some will say it looks well enough on paper, but not one man in 50 can do that well. I believe it can be done every time with proper care. I would like to hear some of our bee-keepers on the subject. If they think I am extravagant in the figures given above, let them say so."

I conceive that the writer's knowledge or his honesty are as badly at fault as his figures. May-be he is too modest to name the real amount of wealth that these 7 years of patient waiting will wriggle out of one "skep." I make it 128 colonies, and $1,658. Am I not correct? What is the use of our taking $820, when the figures allow us $1,658? Suppose that the writer *knew by experience* that such increase and sales were possible, it would undoubtedly have corrected his sad mistakes in mathematics. I hope the above will show some of the more enthusiastic that they have undergone a growth.

I cannot help being mistaken sometimes, but I can and *will* help being dishonest enough to try to cover it up.

But I am as much pleased as any man among us, that times for the honey-producer *are* better, and have a better outlook.

I think the essayist referred to in the beginning of this article has rather over-estimated the extent of my conversion. Don't mistake my ever-readiness to back up and off from each *inch* of untenable ground as quickly as I see it, for an admission of the other extreme. I am glad of the new light of better prospects, glad of the essay, and hope to see the Chicago North-Western Bee-Keepers' Association excelled by none in the country, and that it may be my lot to be at the next meeting.

Dowagiac, Mich., Nov. 11, 1880.

[We are glad of our friend Heddon's honest criticism. The communication of Mr. Hoge, on page 555 of this JOURNAL, proves that consumption has increased fully as much, if not more, than production. No one who knows Mr. Heddon, could think he would hesitate a moment to embrace a truth or discard an error, as soon as it becomes apparent to him. Sometimes he is a *little* slow in seeing it, but that is often a *good* fault, if we may use that term. He is cautious and honest in his convictions, and though we are often compelled to differ with him, yet we shall, we hope, ever remain the best personal friends.—ED.]

For the American Bee Journal.

Over-Stocking a Locality.

GEO. W. HOUSE.

The subject of over-stocking is an all-important one, and at the present time is much discussed in our bee papers and at our Conventions. Intelligent and practical apiarists know that it is an easy matter to over-stock any locality; but still there are some who claim that a location *cannot* be over-stocked. Whether this is owing to a lack of knowledge, or with an intention on the part of the writer for increasing the sale of bees, is a question to be settled by the reader.

In the report of the last National Convention, page 518, of the AMERICAN BEE JOURNAL, Mr. D. A. Jones thinks it very difficult to over-stock any good location with bees. He says he is "satisfied that over-stocking is an imaginary evil, and one of the improbabilities in a good locality for bees. He had 300 colonies in his home apiary, and at another locality but a few colonies, entirely out of range from any other bees. This latter bee range is quite as desirable as the former, and the bees equally as good and strong, yet they stored no more honey per colony." Then, again, Mr. Jas. Heddon, in his essay on "Apicultural Failures," at the National Convention, page 537, AMERICAN BEE JOURNAL, says, "Now bee-keepers who would succeed, it rests with you to know that a divided field will not pay any one, and act accordingly. If you expect to avoid 'apicultural failure,' choose an unoccupied field."

Now, why this diversity of opinion? I claim Mr. Heddon is right. Let us see. Mr. Jones says he has an apiary located away from his home apiary. Now, if you cannot over-stock a location, why did Mr. J. make his second apiary? The expenses would be less, and then it would be much more convenient to have the bees all in one apiary. Again, Mr. J. says he will this fall plant 28 acres of Bokhara clover for his bees. I believe much benefit can be derived from planting for bee pasturage, to fill in the gap between the bloom from which we secure our yield of honey.

But to our subject again: Suppose there were 100 colonies on each side of Mr. J., north, south, east and west, and within 1½ miles of his home apiary; what would be the consequence? I fear Mr. J. would feel like growling, and would not think over-stocking an "imaginary evil." Again I say, over-stocking a location is a very easy matter. I know this from experience. Let me illustrate. At our home apiary of about 100 colonies, we have within 1½ miles about 400 colonies of bees in every direction. Our bees in their flights are, therefore, cut off on every side, and the result is our yield of surplus honey is light, and with only a moderate flow of honey, *no* surplus is secured. At apiary No. 2, of about 200 colonies, and located 5 miles south, our yield of surplus honey is three times the amount secured at our home apiary. At this apiary we have an undivided field. Apiary No. 3, of about 150 colonies, and located 10 miles south, gives us about the same results as apiary No. 2. Here we also have an undivided field. The localities are *all* one equally as good as the other; but our home apiary is over-stocked, and we see the results. Some localities can be over-stocked with 100 colonies, while others would keep 300 colonies.

Every bee-keeper should make his location a study until he is able to know just how many colonies he can keep profitably. Then if you feel confident of being able to manage more bees, you should seek a new location. Locate where you find the most bloom—willow, fruits, clover, linden and fall flowers—

the more bloom the better. But seek for some valley where you are protected from the winter winds and your bees are close by the willows, thus enabling them to get the honey from this source in the early spring, while it is yet chilly. I might say much more upon this subject, but fear I am occupying too much space already.

Before signing I would say: If you do not believe these words to be facts, go into the neighborhood of some of these men who think over-stocking an "imaginary evil," and talk of locating an apiary near them, and if that man has any influence over his neighbors you will know it very quickly.

Fayetteville, N. Y., Nov. 11, 1880.

For the American Bee Journal.

My Report for 1880.

E. A. MORGAN.

As I see that many bee-keepers are now making their reports, I will send in mine. My neighbor, McNay, makes a good showing, but his pasturage is not as good as mine.

I had no success in wintering and only had 14 colonies left out of 27. It was too warm and they were not well ventilated. Of the 14, only 3 were colonies, the rest were nuclei.

My plan is to take out all combs but 2 or 3, or what the bees can be crowded upon, by using division boards and keep them crowded, until these are full of sealed brood, then give another and so on until the hive is full, thus getting the combs full to the top and ends. when the hive is full then put on upper story for surplus. If any are short of stores hang a frame of warmed honey in the hive, cold honey is injurious.

I worked for comb honey until the colonies showed signs of swarming and then began to extract, consolidating all unfinished sections on a few hives, extracting the others, and feeding to these at night. In this way I secured 200 lbs. to each hive, on an average.

My colonies increased to 28 by natural swarming; 3 I broke up into nuclei and have sold 56 dollar-queens from them. My bees are all Italians, from an imported queen and a descendant of a tested Oatman queen, and are almost non-swarmers.

The weather has been good during the season, and the yield at all times has been large.

I believe with Mr. H V. Train that Italianizing by the drones is better than by the queens, for wherever my neighbor's queens have met my drones they seem to be nearly pure Italian bees, and where pure queens meet black drones they seem to be nearly all blacks. I once had hybrids that were uniform in color, every bee showing 1 band and no blacks with them.

I think the size of a colony must be determined before we can secure large crops of surplus honey. A neighbor said to me last July, he had 6 colonies from 1 colony. I invited him to come and see me extract, the next day, when he said to me, "my 6 colonies would not make one of yours."

I consider the Italians far better than blacks because they are more hardy and live longer. This is why they are always strong, and the blacks strong only in hot weather. Strong colonies give the surplus and I think 3 pecks of bees a good colony. Each of my 24 colonies would measure that much, and I took 4,800 lbs. of honey from them. I have sold 2,000 lbs. at 20c. and have the balance on hand.

Farmers here sow red clover with their wheat in the spring for fall pasture and to enrich the land. It springs up after the wheat is cut, gives a small stunted blossom and yields honey profusely. I have honey marked apple blossom, dandelion, white clover, basswood, buckwheat, red clover and golden rod. Each yielded abundantly this year.

I think there is no better pollen for early spring breeding than the alder; it gave pollen this season on March 19, and on April 19, 3 colonies had started the sections; I lost no time from that on. I was always watching and knew the exact condition of every brood frame and section and did what was needed to be done.

Here I found Italians ahead again, for in opening an Italian colony, giving brood, exchanging combs or extracting, they work right on, while blacks are scared and buzz for an hour or two, and stop work for the day; this I proved last season. One colony on the scales gained just 12 lbs. every day. One day at noon the scale showed 5 lbs. gain, when I opened the hive and looked them over, in the afternoon, showed ½ lb. gain. An Italian colony treated the same, this year showed 5 lbs. up to noon and 7 lbs. from 12 until dark. All will admit this to be so, that have handled both kinds of bees.

As all, or nearly all, report a poor season this year; it seems that my neighbor, Mr. McNay and myself have had an extra yield; this I think is due to locality, for bee-trees cut down in the woods are giving 100 lbs. of nice honey.

Arcadia, Wis., Nov. 9, 1880.

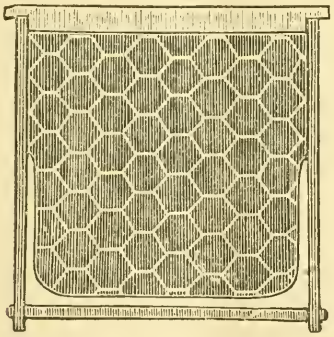
For the American Bee Journal.

The Sagging of Comb Foundation.

W. G. WALTON.

The sagging of comb foundation, while the bees are drawing it out, seems yet to be a question of doubt even among leading apiarists. In the September number of the BEE JOURNAL I noticed an article by Mr. James Heddon on this subject, which surprised me somewhat. I dislike to disagree with a man like Mr. Heddon on any question of bee-culture, but I must say that I think he is behind the times on comb foundation.

The following engraving will show my method of placing it in the frames. I gave the same idea in a letter published on page 314 of the BEE JOURNAL for 1876. I had used it previous to that date and since, and tried it thoroughly before giving my method. I have shown this



plan to about 100 bee-keepers who have tried it, and have thus far failed to find one that ever had the foundation sag so much that it could be noticed, or built crooked or buckle. I have made in my own apiary, I presume, during the time since it has been invented, thousands of combs by this plan, and never had the slightest trouble, and we have it as hot sometimes as 103° in the shade. I see Mr. D. A. Jones is recommending the tin-pointed comb-holder, to hold up the comb foundation while it is drawn out. I think the wired foundation is of no value in this latitude, for if comb foundation is cut as shown in the above engraving, with a saw-mark deep enough in the top-bar to let it go up ⅛ of an inch, and either nail or wax along the top, as well as wax half way down the side, where the comb foundation touches the wood, it will not sag. I should like for Mr. Heddon, or any one who has not already tried it, to do so, and report in the BEE JOURNAL.

I think I was among the first to use comb foundation in Canada, and have had considerable experience with it, I have never had any, with the exception perhaps of a dozen combs (while I was experimenting with it), but what has been straight, beautiful, and all alike, and no drone cells in any of it except when I desired them. All that is required is ordinary foundation, cut in the above shape, made on any machine, out of pure wax, to make straight combs without sagging, although I prefer the Dunham over any make I have yet seen.

If any one should ask why those points are left at the bottom corners of the frame, in the above cut, I can inform them it is to save the queen and bees from being hurt when sitting the frames on the ground, about the hive, either upright or on the side, as well as forming a guide for the same purpose, while lifting the frame out of the hive, of which there is great danger, especially with a young queen, when she runs down to the bottom-bar or side to hide while the frames are being moved.

Hamilton, Canada, Oct. 8, 1880.

For the American Bee Journal.

Systematic Bee-Keeping.

O. CLUTE.

Order is one of the first elements of success. The merchant whose business is not in order is constantly harassed with difficulties, and, in the end, fails. The farmer who conducts his work without system will ultimately have an exhausted soil, short crops, poor prices, and a ten-per-cent. mortgage that blankets all his acres. The bee-keeper who runs his bees in a systemless way will get but little benefit from the good seasons, and will be utterly routed by the bad ones.

1. A work-shop, or "bee-room," as my children call my shop, is very important. This may be a room in the house, a part of the wood-shed, a corner of the barn—any place at a convenient distance from the hives, where all tools and appurtenances of the apiary can be kept, and where work can be conveniently done. In this room are the work-bench and the tool-closet. In this room the bee-keeper can profitably employ every rainy day throughout the season. An old stove that has been discarded from the house, with a little fixing, can be made to do duty in the shop for several years. Then in fall and winter and early spring full preparation can be made for the next summer's campaign. Hives can be made and painted; frames

can be made and stored away; racks for sections can be made; the sections themselves can be made, the starters put in, and the sections put into the racks, so that when the hurry of the white clover or the linn season is come, the labor of preparing for the surplus honey will be so nearly done beforehand, that a few minutes will suffice for putting on the racks.

In this shop all the fixtures for extracting can be arranged, and the extracting can be done with the least possible amount of carrying and lifting. Here, too, the extracted honey can be put into kegs, cans, pails and jars for market. Here the comb honey can be neatly put up in crates, and stored until time to send to market. By the enterprising bee-keeper such a shop is needed every hour of every day.

2. Every bee-keeper should adopt a frame most suitable to his needs, then have all his frames made exactly alike, and have every hive so made that any frame will fit instantly in any hive. Let all the parts of the hives be exact in measurement, so that lids or caps, alighting-boards, division-boards, surplus-honey racks, feeders, second-stories, are each exactly like every one of its kind. Then there is no trouble or fuss about fitting. When you take up one of these articles for use, you are confident that it will fit the place for which you want it.

3. The arrangement of hives in the apiary may be so made as greatly to facilitate the labor. Having chosen a spot with suitable exposure, put the hives in groups or rows so that each hive can be easily approached and conveniently manipulated. At the same time give the hives such symmetrical arrangement as will be a pleasure to the eye. In arranging hives in the spring, allowance of space should be made for whatever increase you expect to make, so that as the new colonies are made, the hives need not become huddled and disorderly. Let every hive be conspicuously numbered. With stencil figures and black paint, this can be done easily and rapidly.

4. Now keep a stout pocket memorandum-book, with the pages numbered in order. Let each page of the book be devoted to the hive of corresponding number. Then any hive's record can always be turned to instantly. Keep a full record of each hive. First in importance in this record is the age and quality of the queen. Let this always be kept in view in examining your hives. If a queen is lacking in any desirable qualities you soon learn it, and can supersede her. If one or more queens give a remarkably good record you know it, and can breed your next year's queens from them. In this memorandum book all important items can be noted, then, as the book is examined from time to time, you have before you the exact history of every hive, and know at once what work needs to be done for each—number 59 needs more frames, number 65 needs to be extracted, the racks of sections must go on numbers 13 to 46, new queens must be given to numbers 49, 53 and 70. So the labor of each day can be carefully planned and provided for, and when that labor is done you have the satisfaction of feeling that it counts something in permanent value for your apiary.

5. Make out a full plan of each year's work, and then adhere to the plan as closely as the season will permit. Of course the wise bee-keeper must adapt himself to the conditions. If a poor season spoils his hopes of honey and increase, it cannot be helped. His good plans will come to naught. But finding that his old plans are impossible he at once studies the conditions, and adapts himself to those conditions, and so turns what would otherwise have been a certain and disastrous failure into a comparative success. How many hives shall I run for comb honey, how many for extracted honey, what increase shall I attempt to make, how many old queens shall I replace, from what colonies shall the queens and the drones be reared, at what time or times in the season shall the increase be made?—these and numerous other questions the careful bee-keeper will ask, and, having answered them to the best of his ability, he will so plan as to accomplish the desired ends in the best way.

6. The bee-keeper who works by system will have his harvest at the end of the year in the best shape. The comb honey is in nice sections or boxes, stored in neat crates. The extracted honey is in good barrels or kegs, in tin cans, or tin pails, or glass jars. Honey in this shape will command the highest market price. And if the producer does not want to push his product upon a glutted market, he has that product in such shape that he can keep it for months without deterioration. It is, too, in such shape that he can ship it to distant markets East or West, or even beyond the sea, and so avoid the fierce competitions in the glutted markets of the small towns in his neighborhood.

7. This systematic bee-keeping implies an acquaintance with what has been learned by careful observers in the science of bee-keeping all over the country. This knowledge can best be ac-

quired by reading. The periodicals devoted to bee-keeping are indispensable to him who would keep up with his business. And the valuable books of Prof. Cook, L. C. Root, A. I. Root, and T. G. Newman should have a place on the book-shelf of every enterprising student of this fascinating employment. I venture to suggest that John Allen's "Blessed Bees" could be read by all with profit. The truth is often most forcibly taught in the guise of fiction. If all bee-keepers would work with the spirit and system I have endeavored to teach in the "Blessed Bees," I am sure they would have greater delight and greater profit in their calling.

Iowa City, Iowa, 28th Sept., 1880.

[The foregoing was contributed to the essay department of the North American Bee-Keepers' Convention, recently held in Cincinnati, but did not reach the Secretary in time to be read. There are so many valuable suggestions contained in it, that we publish it entire as correspondence.—Ed.]

For the American Bee Journal.

Fertilization in Confinement.

LEVI FILBERT.

A year ago last August, I thought I would try an experiment. Having a queenless colony, I made a frame of the same material that I make frames for the hive, only larger, so that it would fit down tight all around. I then covered it with wire-cloth, and removed the first comb from the end of the queenless colony, placing in my wired frame. I then went to a hive and took out a queen cell, where the queen was just beginning to cut through; I took my pocket-knife and cut the queen out and placed her in the end of the hive, with a good portion of bees and drones. I left her there three days, when I changed her to the other end of the hive with other drones. In this way she became fertilized and proved to be a good layer, and she "holds the fort" to-day.

Now I do not wish to be misunderstood. I do not say this will always be a successful way, but it worked like a charm the first time I gave it a trial. I intended to give this another trial this season, but my bees did poorly, so I dropped it for the present. I wish some other bee-keeper would try this plan of fertilization.

I have united my bees from 74 down to 51 colonies. I put 2 and 3 together, along with all the young brood and honey, and removed the empty frames. This I think is the only safe way. I am not the only unlucky man here; if I lose my bees, others will lose theirs. Success to the Bee Journal and all bee-keepers.

Port Byron, Ill., Sept. 29, 1880.

For the American Bee Journal.

Bee Pasturage and Other Items.

WM. CAMM.

Editor Bee Journal: In my last you made me say "under feet," where I wrote tender feet. I meant that the two bad seasons would drive out many, or most beginners, who would become customers rather than producers, and the ultimate advantage would be to those who intelligently persevered in apiculture. I have saved seed of melilot and figwort; shall sow and cultivate the best honey plants side by side, and carefully note results.

Since writing you last I have observed bees, in the same flight, many times pass from purslane flowers to those of another weed closely resembling them in color and size. In one particular spot where I often watched, contrasting flowers were mixed, but I saw no crossing in the same flight except between buckwheat and smartweed, whose flowers, though differently shaped, were of nearly the same color. Here I saw almost every bee that visited the cluster cross, and saw them do so hundreds of times. Color, then, seems to guide the bee, and not only the bee but birds, for while making these observations I was one day painting farm implements with a bright red, some of the paint was spattered upon plants, and I saw a humming bird repeatedly stick his bill in the paint on different plants, and several times tried even the tongue of a reaping machine. The little fellow seemed surprised, and before giving it up alighted on the tongue in the fresh paint, so close to me that I tried to put my hand on it. Several parties were standing close by, and we were conversing with a good deal of animation, yet the bright color seemed to attract the bird more than our presence and noise overawed it.

Desiring last week to introduce eight Italian queens, I tried six of them by making a sweet infusion of peppermint leaves, removed the old queen, sprinkled the hive and bees with the infusion, also the new queen, then lifted a comb, put her on it, and after watching to see that the bees did not hurt her, put the comb in its place. Out of the six, five were successful. In looking for one black

queen I was bothered a long time, but finally saw her dead, killed by accident, in front of the hive. As the bees were annoyed by exposure to robbers, I put the new queen in a cage, and next morning another black but smaller queen laid in front of the hive.

A letter from the northern part of Alabama tells me that there bees use all the honey they get from white clover in brood-rearing; but gather a surplus of good honey from red clover. Two degrees south of this I saw hundreds of bees work on common red clover, but here not a single one. There few worked on blackberry; here many work upon it.

I removed a black queen; 24 hours afterwards I put one of Alley's queens in, caged; after 48 hours I released her, and, though well received, she flew away. As she seemed to mark the hive, my wife and I sat long by it without moving anything, but our bird was in the bush and for good.

Just where I live frost has killed all but the hardiest flowers, though the situation is high and dry; but where I have bought, 6 miles east, there is hardly a sign of frost, and even beans and tomatoes are green. This shows how careful one should be in selecting a location for an apiary.

I have just destroyed an old, gentle queen, caught wild in the Ozark Mountains in Missouri, that to my own knowledge has laid five seasons, and was still prolific, but this year bred a great number of drones. Her progeny were very gentle, very industrious, and nearly all showed one or two yellow bands.

Winchester, Ill., Oct. 4, 1880.

For the American Bee Journal.

Chaff Packing on Summer Stands.

SAMUEL STEVENSON, M. D.

On this, as on many other subjects, there is still a difference of opinion, which means that we have not yet reached perfection. Much has been said upon this interesting topic, yet I think there is no danger that we shall understand the subject too thoroughly.

I will give the method of wintering which I have pursued successfully for the last six years. I make a box of good, strong, inch lumber, with a bottom of the same thickness. The bottom is placed on the inside of the end and side pieces. I make an opening on the front side 1 inch wide by 2 long, on a level with the floor or bottom. I then remove the top from the hive and place the body containing the frames and bees within the box. I build so as to have a 3-inch space on all the sides, between the outside of the hive and the inside of the box. The box extends 5 inches above the top of the hive when placed in position. To secure entrance to and exit from the hive at all times when the bees are disposed to fly, I take a thin piece of board 3 inches wide by 6 long, and upon the same near the ends nail a piece of board 2 inches high by 3 wide. This is placed on the inside of the box, so as to cover the opening made there. The hive is then brought up snugly in contact with it. Here we have a little vestibule or porch completely enclosed, 2 inches high, 3 wide and about 5 long. This secures perfect freedom to the bees to pass in and out. The space between the hive and box is now completely filled with finely cut wheat straw and chaff—the dryer the better. The honey boards are now removed, and a piece of good, strong, thick, clean, woolen cloth (not anything that you can pick up here or there) is put down upon the frames and fastened at each corner with a small tack. This is then covered with from 3 to 5 inches of straw and chaff. By having the cloth thick, dust is prevented from passing down. The animal heat is effectually retained, while the moisture or perspiration, which is constantly generated, passes up through the cloth freely, and leaves the bees dry and warm. The whole is now covered by a roof, which shuts over the outside of the box and rests on a strip of wood nailed about 2 inches from the top of the box. I build the roof of boards and shingles, and allow spaces between the roof boards for the escape of moisture.

On the approach of winter, I place a quantity of straw around the hives, upon the ground, and push it up snugly against them. This prevents the cold wind from driving under them. Thus prepared, I leave my bees until the 1st of May, or sometimes till the 10th.

Put up in this way, bees are not apt to leave their home on the first warm day in winter, while those not thus protected, leave by hundreds and perish on the snow or by the cold wind. The warm rays of the sun do not easily penetrate the well-covered home and arouse them.

In the early spring months breeding goes prosperously on within the well-protected hive, indifferent to the sudden and often unfavorable changes peculiar to our spring season. Dryness and warmth seem to be secured by this method—without these conditions, no colony can prosper. By this method of wintering, I have succeeded for the past 6 years to my entire satisfaction.

Morenci, Mich., Oct. 12, 1880.

For the American Bee Journal.

Plenty of Bees: Plenty of Honey.

G. M. DOOLITTLE.

In order to get box honey we must have plenty of bees in our hives when the honey season arrives, or a failure is almost certain, as those reared as the season draws to a close will be consumers instead of producers. But how shall we get the bees? is a question frequently asked. We will tell you how to get them: When pollen becomes plenty—say, the 10th of May in this latitude—we go to each hive, and if the bees will bear spreading a little more without danger of chilling the brood, take a frame of honey from the outside of the cluster, and break the sealing by passing a knife flatwise over it, and place it in the center of the brood-nest. In ten days go over them again, and so on until settled warm weather comes in June, then go over them every four or five days, putting one frame in the center each time, and you will find the queen will fill it every 4 or 5 days, besides keeping all the empty cells filled which are daily vacated by maturing brood. By the 25th of June every available cell should be filled with brood, and the hive full of bees. By this time white clover is at its height, and all the boxes should be put on, if not already on. We like to put on boxes when the hive is so full of brood, and the bees so anxious for some place to put honey that they will commence work in the boxes at once.

Gallup gave us the secret years ago in the AMERICAN BEE JOURNAL, when he said: "Get the bees and they will get the honey, if there is any to be had." Keep an eye to business and do things at the right time, if you wish success. If we wait about putting on boxes when our bees have arrived at the condition we have supposed them to be in on June 25th, and we should have but a few days honey yield, we will get nothing. It is no unusual thing to secure from 6 to 10 lbs. of box honey from a colony per day, if you have your hive full of brood and bees and honey is plenty in the flowers.

Now we will suppose that instead of spreading the brood as given above, we let our bees take care of themselves, leaving weak colonies unprotected, and if any bees have died during the winter we leave their stores for the bees to carry away. After carrying off this they will be apt to rob out week colonies, and thus their combs will be filled with honey instead of brood. Soon the willows blossom, then the apple trees, and thus the hive is kept full of honey. Too much stores in May and June will just as surely spoil the colony for box honey as to let them starve. There is no such thing as having the combs full of honey during the fore part of the season, and then getting boxes filled with clover honey, for where would the bees come from to gather said honey?

E. Gallup said in the AMERICAN BEE JOURNAL, page 6, vol. 4: "We must never allow the bees to get in advance of the queen, for if we do the prosperity of the colony is checked at once; that is, if the bees are allowed to fill the combs with honey in the spring, before the queen has filled them with brood, the colony will be an unprofitable one." Honey cannot be obtained without bees. Our 9 Gallup frames give us 45,000 worker bees every 21 days, and a queen that is good for anything, worked on the plan given in this article, will keep the frames full of brood after they are once full, till the honey season draws to a close, providing the boxes are put on at the proper time; but give the same queen 5,000 bees, and these old ones or field-workers, and they will keep the combs so filled with honey that no surplus will be obtained. If our hives contain 5,000 bees on the 1st of May, with 10 lbs. of honey, they are what we call extra good colonies. Now, if we should give them what honey or syrup they could carry during the month of May, instead of using up the 10 lbs., we would have about 5,000 bees in our hives all summer. Thus it will be seen it is bees we want in our hives the fore part of the season, instead of honey.

If, by the process given, our bees run short of stores, of course we must feed them, and money thus spent in feeding will return a large interest, if the season is anything like favorable.

When boxes are filled take them off before they are soiled, and put empty boxes having a starter of nice white comb in their places, and thus you will avoid the difficulty so often experienced, of getting bees to work in a second set of boxes after a full set has been taken off. As the season draws to a close, place the unfinished sections together, and as near the brood as possible, contracting the amount of box room to suit their number, and thus you will get most of your honey in a salable form.

Again another season draws to a close, and this is the last one of the articles we promised you for the season 1880. We hope they may have been of some practical value to some, and if so, we are content. We rejoice that we are to have a weekly AMERICAN BEE JOURNAL for 1881, and we shall try to show our appreciation by writing for its col-

umns as often as our time will allow. Wishing you all a prosperous season for 1881, we remain your obedient servant.

Borodino, N. Y., Nov., 1881.

For the American Bee Journal.

Tool for Glassing Sections.

C. WURSTER.

EDITOR BEE JOURNAL: I have sent you an implement for inspection and opinion. I have felt the need so much for it during the past two years, and have tried several devices to help me in putting the tin points on sections in glassing, of which, as you see, this is the result, and I do not think it can be improved much in principle, except that the hole for the shank, which is smaller in diameter down through the interior of the jaw, may be extended about ¼ of an inch further back, so on the spring pressing back the shank it may still have sufficient insertion in its own bore to prevent the point of the shank from slipping over on the shoulder left by the

larger bore. One continuous small bore may do, but the shank would not be sufficiently strong and stiff, and the large bore would be too big to go to the tip of the jaw unless made heavier, also the slat in the exterior cut in the furl or casing might be put on the opposite side to prevent coming in contact with the right fore finger in the act of pressing down when driving the tin points. It is a great convenience for those who have many sections to glass.

I have come across nothing so far to do this work. I have spent much study and labor on this, and whether it suits or not, you are welcome to it, and to use it for a pattern. It is not easy to make one to work right, but a good mechanic, with a reasonable amount of skill, ought to be able to do so without difficulty. We have had engravings in your valuable JOURNAL for nailing sections to advantage, but I consider this just as indispensable. You can drive the point into hard wood even. Although only lately perfected, I still had the pleasure of driving some 7,000 points, without missing or ill-spending a single one.

You will see, when using the tool, the section must be laid down flat, lay your glass on, and the side of the section you wish to drive the points in should be nearest you, then with your left hand hold the section and glass in place, and with the left hand thumb to steady the tool, having, as you will notice, one jaw shorter, which must be facing the glass in front of it, keeping the tool close to the edge of the glass, and while pressing down with the left fore finger press the glass against the tool, or at least from pushing it off in case a point is a little faulty and sometimes apt to bend.

A very little practice will enable a person to put in the points, and with the side of the jaw turning over the heel of the point with such rapidity that a looker-on can hardly tell how it is done. I of course have taken out no patent on it, and therefore make it public property with this wish, that it may be named with the inventor's name if it should be found deserving. The shank is put into the handle with a thread cut on it and screwed in, as that part is to be the strongest, and to project just so so far, to almost a hair's breadth.

Kleinburg, Ontario, Oct. 5, 1880.

[The tool is very handy, and shows skill in devising. Those who do much glassing will find it quite useful.—ED.]

For the American Bee Journal.

Cyprian and Holy Bees, Etc.

D. A. JONES.

In compliance with the request of the National Convention that I write out for publication, in the AMERICAN BEE JOURNAL, the substance of my remarks before that body at their last session, in Cincinnati, relative to my recent trip to the Island of Cyprus and Jerusalem, it gives me pleasure to submit the following:

Since we last parted (about one year ago) I have endeavored, in common with the rest of my brother bee-keepers, to elevate the science and better our condition, and one of my efforts has been to secure new and superior races of bees, in which I have succeeded beyond my most sanguine expectations, and I feel satisfied that the years 1880-81 will be marked in the bee history of America as making greater onward strides in bee-keeping than any previous years.

One year ago we were very anxious to secure queen bees from the Island of Cyprus, which I have accomplished at great expense and sacrifice of comfort; but even more has been done. A superior race of bees, now known as "holy bees," have been collected from various parts of the Holy Land. I found bees there which I believe to be those first given to man, and which possess qualities not found in any others.

The Cyprian bees have been described in the JOURNAL, and as I have now furnished a great many of our American bee-keepers with Cyprian and holy queens, it will only be necessary to call attention to some of their leading points:

They build less drone comb than the blacks or Italians.

They fly further in search of stores, if necessary.

They fly very swift, being able to go as far, and unload and return, in 7 minutes as others do in 9.

They protect their stores against robbers with such determination that they often catch the robbers on the wing around their hives and punish them before they even get time to alight; in fact, they appear robber-proof.

They are more judicious about going out in bad weather, and have a keener scent, which is more acute than blacks or Italians.

Their bodies are more telescopic, which enables them to carry large loads of honey, and to contract their bodies at other times to quite small proportions.

They are wonderfully prolific, laying an incredible number of eggs in a season; in fact, I would not be surprised if holy queens would lay as many eggs in one season as blacks or Italians do in a life-time.

They do not stop breeding early in the fall after frosty nights, like blacks and Italians, but continue breeding right along; thus it will be seen that they will be in good condition for wintering, so far as young bees are concerned.

Both races have a beautiful gold shield between their wings, and are very light on the under side of the abdomen. The Cyprians have a black tip at the end of the abdomen, more so than the holy bees; some of them having beautiful gray hairy rings even to the tip, and when well filled with honey they sometimes show 4 broad gold bands and 2 narrower ones—6 in all.

Some of the Cyprian drones are very handsome, more so than the holy drones; yet the holy drones are very fine, large and vigorous, with long gray and blue-tinged hair. Both Cyprian and holy bees are more easily transported than Italian or blacks, as they do not gorge themselves with honey so frequently or readily, and can contract their bodies so small; may it not be reasonable to suppose that they consume less stores, except in breeding? I intend to test this matter fully, and wish others to do so. I believe they will be valuable for box honey, as the queen will occupy every cell in the brood chamber, and force them to put their honey elsewhere.

Both the Cyprian and holy queens are very much smaller when not laying, and some persons think them ordinary-looking; but give them plenty of bees and room, and they get very large and fill frames with eggs so rapidly that you would imagine it impossible for one queen to deposit them so fast. One holy queen can lay eggs enough in 21 days to make from 4 to 6 swarms of bees, if they are all cared for and hatched. This may seem surprising, but try the experiment and be convinced.

How Bees are Kept in Cyprus.

They are kept in clay cylinders, which are piled up like cord-wood, the ends being closed up with stone or mud, and the spaces between the cylinders as they are piled are also closed at each end, so there is a dead-air-space almost around each cylinder, which keeps them cooler than any one would suppose they could be, standing as they do in the burning sun. As the bees all fly out at a small hole in the end of each hive, I should think that heavy losses must occur with the queens as they go out on their bridal tours.

When the natives want any honey and think the cylinder is full, they open the rear end and remove the stone or mud plate that closes it, and blow in smoke to drive the bees forward, sometimes out of the entrance, and remove all the honey from the back end of the hive. Sometimes they have two honey seasons, other times one, but this year none. It has been the worst honey year ever known in Cyprus. Three-fourths of the bees died last spring, and since then three-fourths of what were left have died, so there are none in some localities, and only a few in others. We have had to feed an enormous quantity of sugar to keep our large apiary at Lanarca from starving.

Mr. Benton says that our Italians or blacks could not survive where the Cyprians will live and thrive. He wonders that there is a bee left in such a country, and claims that they are only the fittest which have survived. Mr. Benton is very sanguine about their great superiority when it is put to the test.

But I must now tell you about the holy bees, or the bees of Palestine and Syria. In the Valley of Sharon, at Jerusalem, Bethlehem, Mount of Olives near Jericho, and in fact, all through the hills of Judea, the hives are made of clay, and conical-shaped. The bees fly out and in at the small end, the other being closed the same as in Cyprus. About Beyrout, and along the edge of Mount Lebanon, they are kept in water jugs, some in cylinders, and others in a wicker or basket hive, about 7 or 9 inches

in diameter, and about 3 feet long, covered with the manure of camels or mules. They are also laid on the side, and the ends closed, except a small hole in one end for the bees to pass in and out. At Damascus they are in clay cylinders not burned nor baked, but dried with a mixture of straw to hold the clay together. On Mount Hermon they are the same as the above, but near Palmyra they are smaller, and the bees are very handsome, some of which were shown at the Convention. In other parts I found the hives similar to those I have described. But the strangest one I found was a rock hive, or rather a colony in a deep crevice in the rocks, near the Jordan. I examined it to see if I could not get them out, but came to the conclusion it would take a barrel of gunpowder to blast away the rocks so I could get to them. I was informed they would not have been there then if they could have been reached, as the shepherds are always on the search for wild bees, and they rob them as soon as they find them.

There is one redeeming feature about the system of bee-keeping practiced in Cyprus, Palestine and Syria; that is, although they are heathens, they do not brimstone their bees as do the Christians of Europe and America.

Beeton, Ontario, October, 1880.

For the American Bee Journal.

Bee-Keeping in the South.

B. F. AVERILL.

Having kept bees with profit at my home in Massachusetts, I have often, since coming South, wondered why so few people here are engaged in that pleasant and profitable occupation. I regard an apiary located in the South, if managed with equal energy and skill, more profitable than those I have visited in other sections of the country. Here are flowers in abundance (except perhaps a few weeks in July and August) from February to November, and during the winter months, in mild weather, bees gather quantities of juice from stubs of cane in the cane-fields, breeding, therefore, throughout the year.

I find with regret, in a country so well adapted to bee-keeping, the pursuit sadly neglected. A walk through several apiaries in this vicinity discouraged me of the bee prospects for Louisiana. But a number of apiarists in this State are doing much to advance the business in the South by their example and success, prominent among whom I may mention Mr. Paul L. Viallon, of Bayou Goula, who has an extensive apiary. A glance at his many colonies and nuclei, overflowing with bees, would induce, I think, many of my Northern friends to wish they were as favorably situated. While my bees at home had ceased breeding, and were ready for the cellar when I left, his are gathering honey, and will do so for weeks to come.

October 11, 1880.

For the American Bee Journal

Do Queens lay Eggs in Queen Cells?

D. K. BOUTELLE.

Mr. G. M. Doolittle in an article on the "proper time for queen-rearing," in the JOURNAL for October, says: "Certainly no better queens can be reared than those reared in the swarming hive, where the queen lays the egg directly in the queen-cell, and the larvæ is fed for a queen until it is sealed over."

I will give an account of a little experience I had two years ago, which, if I mistake not, may have a bearing on the question whether the queen lays eggs directly in the queen-cells, or whether they are transferred there by the worker bees from worker cells. In 1868 I had a few hives of black bees which I desired to Italianize. From one of them I took the queen, closing the hive for a few days for all eggs and larvæ to be too far advanced for producing queens. I then cut out all queen cells started, so there was no possibility of a queen being reared from any thing then in the hive. Next I gave a comb from an Italian colony containing a small patch of eggs equal to about 3 inches square, but no brood. On the second day afterwards I opened the hive and took up that comb. To my surprise, no queen-cells were started on it, but the eggs were there, apparently as when I gave the comb. I closed the hive for two more days when I looked again, and was again surprised, on taking up the comb, to find no eggs in it—not an egg. This puzzled me. I took up the next comb, but nothing peculiar was seen. I then took up a third which was a new, light-colored comb (the one supplied was an old black comb) and was built only about half way down, and, as is often the case in a long, or Langstroth frame, it was built in two points—or forked. Here, for a third surprise, in the fork between the points, were two good queen-cells, built about two-thirds length. On looking into them there I saw the tiny larvæ lying in bits of white jelly all nice. But my surprises were not yet over. While

puzzling over the matter, I noticed that one of the points of this comb was composed of drone cells, and which were also occupied with just hatched young larvæ and bits of jelly apparently just like those in the queen-cells. Here was a puzzle sure. I closed the hive and watched it closely, examining it nearly every day, until it was nearly time for the queens to emerge, when I cut one of the cells out and gave it to a another hive of black bees from which I had previously taken the queen. Both queens from these two cells proved to be good Italians. In due time, from the drone portion of the comb, occupied with brood, hatched nice Italian drones. The number of drone cells occupied was apparently about the same as the eggs in the comb I had supplied from the Italian colony.

If I remember rightly, some three or four years ago, some one offered, through either the BEE JOURNAL or *Magazine*, to give $50 to any one who would prove that the bees ever removed an egg from a worker to a queen-cell. Now, if I have made no mistake about the facts, as herein related, then the conclusion seems inevitable, that the bees do, at least sometimes, remove eggs, not only from worker to queen-cells, but also from worker to drone cells. It would seem too, that the eggs which the queen deposits in worker cells are capable of producing both queens and drones! It would further seem that no great number of eggs or larvæ could have been fed to these two queens. If these conclusions be true, then what becomes of the theory that drones are produced only from eggs not impregnated with the male principle? I do not dare, at present, directly to advocate what would, from the above seem to be true, against the theories of experienced and learned apiculturists. But, here is my experience for what it is worth, and I confess to some few pinches of doubt about a number of things pertaining to bees, which are pretty generally taken for granted after reading them in a bee book or paper.

But to return to the question whether queens deposit eggs directly in queen-cells. I am fully convinced that the bees *do* in some cases at least, remove eggs from worker to queen-cells. And now, the question I would ask is, do queens *ever* deposit eggs directly in queen-cells? I remember sometime to have seen an article—I think it was in the JOURNAL—in which the writer maintains that the matter of rearing queens and swarming is entirely controlled by the worker bees; and, that the queen is naturally opposed to the whole arrangement; and that whatever she does about it is by compulsion. Here is one thought about it. I have noticed that a very common, and it would seem a favorite location in the hive for bees to build queen-cells is the very bottom edge of the combs, where it is rare to see any worker-brood. I have often seen them in the lower back corner of the outermost side frames, a situation in which I never saw any worker-brood. Now is it not probable that the worker bees have brought eggs from other parts of the hive and deposited them in these situations? And further, is it not possible that the workers transfer *all* eggs that occupy queen-cells? Has any one ever seen a queen deposit an egg in a queen-cell, or otherwise verified the fact that she does so? or is it only taken for granted? If any one knows the fact, will he or she tell us through the JOURNAL how they know it?

Lake City, Minn., Oct. 15, 1880.

For the American Bee Journal.

A Visit to Mr. Hill's Apiary.

DR. E. PARMLY.

After the adjournment of the Convention a number of us accepted an invitation from Mr. J. S. Hill to visit his apiary, at Mt. Healthy, 9 miles from Cincinnati, O. I wish, Mr. Editor, you were with us. I heard many inquiries for you but you had vanished. We had a most enjoyable time; a perfect autumn day and, once beyond the limits of the city, a clear sky. You would be pleased to know all the occupants of the several wagons so kindly provided by Mr. C. F. Muth. Among other things we discussed was by what strategy our worthy president, Dr. Allen, managed to get all the ladies in his wagon, and we argued that equally skilful management of all the best things in which we are interested, would make our North American Bee-Keepers' Society a grand success under his administration.

Miss Delia Benton, who was in attendance at the National Convention, is a sister of Mr. Frank Benton now on the Island of Cyprus. His labors in the interests of bee-culture are too well-known to remark upon them here. Miss Benton's principal object in attending the Convention was to send her brother the earliest news of its proceedings and she must have been gratified to hear from so many, of the high esteem in which he is held by the most prominent bee-keepers, both here and abroad.

After dinner we examined Mr. Hill's apiary and had a pleasant meeting. Dr. N. P. Allen in the chair. On motion of Mr. D. A. Jones, seconded by Capt. W. F. Williams, it was resolved that we tender our thanks to Mr. J. S. Hill and his family, for their kind-hearted hospitality in furnishing us a sumptuous dinner and his kindness in exhibiting to us his apiary and his fine Italian and Cyprian queens, also our thanks to Mr. C. F. Muth for his kindness in exhibiting to us his house apiary and bees, and his kindness in procuring for us vehicles for our trip.

Mr. Muth is a large-hearted man; systematic in the management of his business and I am not surprised at the unbounded confidence I so frequently heard expressed, in his judgment and integrity.

The persons who were seated at Mr. Hill's table in addition to his family, represented about 3,000 colonies—Mr. Jones heading the list. In our examination of the apiary Miss Hill rendered valuable assistance to her father in opening the hives in advance. She showed that skill and gentleness of action that comes from experience and although unprotected, showed no fear and was not stung. When asked if she liked such work, she replied, that she liked to do anything to assist her father. If more sons and daughters were like minded, there would be more happy homes. She has intelligence, independence and firmness enough to make a strong character, and whatever she does, it will be done as Sir Joshua Reynolds mixed his colors, "with brains, sir."

New York.

For the American Bee Journal.

Hard-wood Barrels for Honey.

EDWIN FRANCE.

I have had some experience with oak honey barrels. It is needless to detail all my trials and troubles with "leaky" barrels, the first year, after I obtained an extractor, but I will say that oak barrels will hold honey without leaking, if they are well made, of good timber, and thoroughly dried before putting the honey into them. The barrels should be kept up stairs, two months or a year before using them—by all means keep them out of the cellar.

I use oak barrels without waxing and they do not leak at all, and the most of them have been in use from 3 to 4 years, and every year I have to take out one of the heads to get the honey out, after it is candied. I sell most of my honey in our home market. Am selling now at 12½c. per pound or 10c. by the barrel.

Platteville, Wis., Oct. 12, 1880.

[Hard wood barrels as usually made and kept in damp places, will not hold honey without waxing. Small sugar-pine or spruce barrels are far preferable to hard-wood, for honey; besides, your success with hard-wood is certainly exceptional. We recently saw a lot of 7 tons of honey, and all the barrels leaked but 3. For our opinion of honey casks, see October number, page 472.—ED.]

For the American Bee Journal.

Honey and Apiarian Supplies at Fairs.

L. H. PAMMEL, JR.

Many counties in the United States hold an annual fair, where there is a general display of agricultural products, farm implements, stock, fruit, honey and apiarian supplies. Some departments are well represented, but that of honey and fruit is generally meager. So deficient were they in the former, at the numerous fairs which I have visited, that I questioned myself as to the cause, not thinking, however, that it was from a lack of interest. I further considered the matter, and through inquiry I find it to be actually from a lack of interest; and still another cause is that many bee-keepers hold fast to their old theories and think very little of scientific bee-culture, and I am sorry to say that a large proportion are such—of course there are many exceptions. Something must be done to enlighten such bee-keepers. But how shall it be done? is a question of great importance. Bee-keeping as a science has been developed to only a limited extent, for many new theories will be adopted that will add to the store of human knowledge.

Every bee-keeper should take pride in advancing the cause of scientific bee-keeping, and no place affords such ample opportunity as our State and county fairs, for the less advanced class generally attend the fairs, and if the advantage is shown to them of having bees in movable-frame hives, or show them your honey, how elegant it looks, and others passing by will praise it; then contrast the difference with an old box hive, or surplus gathered in cheese-boxes and tobacco-pails. They will very soon be converted from their old hobbies to the more modern principles.

LaCrosse, Wis., Oct. 1, 1880.

Conventions.

Cortland Union, N. Y., Convention.

The Cortland Union Bee-Keepers' Association held its regular fall meeting in Cortland, N. Y., on Monday, Oct. 5, 1880. The morning session, after the reading of the minutes of the last meeting and the Treasurer's report, was devoted to miscellaneous discussion.

M. C. Bean inquired whether black or Italian queens were more prolific layers during life-time?

He was replied to by H. D. Mason, who claimed that the Italians were far superior, that they were more able to build themselves up when weak, would cover more comb with a given number, were greater honey gatherers, and required attention that they did not crowd the brood chamber. Some discussion of the relative merits of queens reared in nucleus and full colonies, and dollar queens in general, was participated in by Messrs. R. H. Mellen, E. B. Glazier and Pres. Pierce.

At the opening of the afternoon session, in the absence of M. H. Fairbanks, who was to open the principal question of the day, "The best method of preparing bees for winter," and E. H. Knapp, alternate, desiring to be excused, M. C. Bean was called upon to lead off the discussion. He stated that from lack of preparation he would simply give the plan he had pursued up to the present time. Since basswood time he had fed back considerable honey extracted for the purpose, and the hives were now full of bees and seemed strong for winter. The majority of his bees were in double-walled hives, packed in chaff and hay. The bees are on 8 and 9 frames. He always fed good honey, without diluting.

A. L. Lansing had fed natural honey and his success in fall feeding had been poor. The larger portion of the bees so fed had died before spring.

Mr. Mellen—It should be diluted.

Mr. Corey had fed diluted honey, and his bees had died with dysentery before spring.

Pres. Pierce—Bees not fed so late but that they could have one or two cleansing flights before winter, would be all right.

Mr. Chapman was feeding 5 colonies now as an experiment.

Mr. Mason's experience was that the honey fed late in the season would not be sealed, but soured, and the bees died of dysentery. Except for daily use, he would not feed later than the early part of September. In wintering bees Mr. Mason had tried many plans. He had once packed in chaff and sawdust. The plan he liked best and now practiced was to remove one end of the hive—the Langstroth, with one end secured by buttons—and placing it on that end on scantling arranged in a trench in dry soil. The hives were placed closely together, covered with an abundance of straw and a few inches of earth. He gave no ventilation except such as came through the soil; the bees consumed little honey, and came out strong in the spring. Last spring his bees dwindled away badly; attributed it largely to the cider they had stored in their hives in the fall. Some colonies wintered outdoors fared worse than those which he buried.

W. L. Cogshall wintered his bees packed in chaff; had tried a bee-house, but failed.

A discussion ensued upon the ventilation of hives, which was participated in by Messrs. Chapman, Mason, Cogshall, E. H. Knapp and F. Schermerhorn. The latter gentleman wintered in the cellar, and followed the directions laid down in the "New Quinby" as closely as possible. His success had been good.

Mr. Mellen had formerly tried the cellar, but failed; had used chaff hives for two years.

Slips of paper were given to the members, with the request that each give the amount of honey produced the last season, both comb and extracted, with the number of colonies in the spring and the increase. From these it appears that the total production by the Association is 10,215 lbs. extracted, and 9,160 lbs. of comb honey; number of colonies in the spring was 688, and now is 1,051.

It was decided that there be several subjects for discussion at the next meeting, instead of one.

The questions selected, together with the gentlemen to open them and their respective order, are as follows: "Foundation in hives and surplus boxes," W. L. Cogshall; "Wintering Bees," A. G. Chapman; "Rearing Italian Queens," E. H. Knapp and J. W. Cudworth; "Safest manner of Introducing Italian Queens at any time of season," H. D. Mason; "Springing Bees," R. H. Mellen.

The Association adjourned to meet at the same place on Tuesday, Jan. 4, 1881, at which meeting the election of officers for the year will occur.

The attendance was excellent, and included several ladies.

C. A. Pierce, *Pres.*

C. M. Bean, *Sec.*

Read before the LaCrosse Convention.

About Wintering Bees.

E. A. MORGAN.

This is a subject of more importance to the apiarist than all others combined, and well deserves the earnest thought, careful study, and accurate experiments of the most practical apiarists. If we have no bees, we need not trouble ourselves about their style of hive, their forage, or their management; and we are absolutely certain we shall lose them unless properly cared for. Although a heavy loser myself by disastrous wintering, I have conducted a series of experiments which I feel sure will prove a gain in the end.

Bees, unlike other insects, are more or less active all through the winter, and require more or less food, according to the amount of heat they generate; therefore, to successfully winter them they must have an even temperature, and to secure this cellars, bee-houses, and packing on the summer stand are resorted to.

I have traced the trouble to sudden changes of temperature, causing excessive dampness, unwholesome food, and failure in late fall breeding.

I am satisfied that bees in this latitude cannot be wintered successfully in cellars; the five months' confinement either bloats them up, causing disease, or they besmear the combs, and the foul odor soon destroys the colony, or renders them so weak that they dwindle in the spring. Some advise putting them out for a fly; but the disturbance in doing this makes it equal to leaving them in, and results in no good; besides, it is a heavy job with a large number.

As we have seen that an even temperature is desired to keep the bees quiet, and as the foul odors of cellars and bee-houses causes disease, we must search for other means of protection. After three years of careful experiments, I am satisfied that wintering on the summer stand is preferable to any other, and that bees are in a better condition for the season's work, than if kept in any other way. But to get our bees through safely with a small amount of honey, and have them strong in numbers and in a healthy condition, they must be prepared in the fall; for the better condition they are in when put away, the better they will come out in the spring.

First in importance is the queen; more depends upon the queen than is generally supposed. The hives should be examined as early in the fall as the first of September, to see that all have queens, and that those which are old and feeble may be superseded, and those not laying be fed or the honey extracted from the center combs. A good bee-keeper will know the age of every queen, and note the condition of the colony. I am certain that no colony will live until May without a queen, let them be in ever so good a condition.

It is very important that the queens be kept laying until October 1st; at least that there may be young bees to winter on, instead of old ones, for the work required in spring to rear brood is too much for old bees, which are tired out at the beginning of the winter. With this method we have young bees and the colony is strong in numbers, both tending to the desired point—heat and even temperature. Very much is lost by keeping old or poor queens. Introducing a young, vigorous queen in August will generally save the poorest colony.

After the queens and late breeding have been attended to, I prepare my colonies as follows: On a warm day in October remove 3 or 4 frames of honey from the hive (choose the lightest), and leave the balance in the center of the hive; then put a division board on each side and pack the space with dry chaff; cover the top with duck, put on the upper story, fill in with chaff, and put on the cover. I then construct an outer rough box, with 6 inches of space all around, which I fill with chaff; then cover with coarse marsh hay, and rider it; leave the hive just where it stood all summer; contract the entrance to about 2 inches. Thus packed, strong in numbers, with plenty of good, sealed honey, the heat is retained, the moisture escapes without the heat being lost, during a protracted cold spell leave the entrance nearly closed, and at the beginning of a thaw open the entrance full width to allow the dampness and the gases to escape at the bottom.

A colony of bees in a cellar, with the temperature at the freezing point all the time, are worse off than out on the summer stand, unpacked. Each colony should have at least 30 lbs. of good sealed honey, and two small sticks should be laid across the tops of the frames before covering with the duck and chaff.

If warm days occur in mid-winter, scatter straw in front of the hives; some old bees will fall and die, but the colony is not weakened, for during such a flight the queen is excited to lay, and young bees are reared even in January and February, and very many in March. Several colonies taken from the cellar on April 1st, 1880, seemed strong, but in

3 days did not cover 2 frames, while those wintered out, as above described, were strong and healthy, and emitted a sweet odor; they did not dwindle, and gave the best returns this season of any bees I ever knew.

Some have success with cellar wintering, but I find bees wintered out are stronger, tougher, and breed up earlier than those wintered in-doors. It is said that bees kept in cellars, in a healthy condition, void their feces in a perfectly dry state; but the conditions under which they must be kept are so particular, that with the majority it is not safe.

Prof. Cook would leave his bees in the cellar until flowers appear; this may do in countries where winters are short, but in Wisconsin I have lost several good colonies which were very quiet from Nov. 1st until April 10th, by leaving them until flowers appeared, April 18th, when all were dead.

I consider that no upward ventilation is necessary, for impure air caused by exhalation of the bees will escape at the bottom; being carbonic acid gas, it is heavier than air. Do not molest or jar hives in cold weather, as this disturbs the cluster, causing them to eat, and any excitement produces an undue heat, which rises in moisture and must be taken up. During several weeks of protracted cold, frost will collect on the outer combs if not covered with bees, and when a thaw comes, if the entrance be not opened wide, this dampness will kill the bees. It is my belief that in cellar wintering brood-rearing kills the bees. I shall, therefore, continue experiments the coming winter, giving pure honey sealed in June in the upper story, with not a particle of pollen in it. Whatever may be the result, I will report it for the benefit of science.

Arcadia, Wis., Sept., 1880.

Read at the LaCrosse Convention.

Bee Forage of Western Wisconsin.

L. H. PAMMEL, JR.

A man's success in bee-keeping may be traced to the scientific management of the apiary, and the number of honey plants that are in easy reach of the bees from the apiary. Every locality contains some honey plants. The fertility and productiveness of these plants depend upon the soil and climate. Of course our soil and climate cannot show honey plants that grow so luxuriantly and blossom with such fertility as those of the more tropical regions. Many of the southern plants thrive here, but their blooming season is retarded by our late springs.

The willow is with us the first plant of the season that contains any pollen or honey. The blossoms of the willow are of two kinds—pistillate and staminate; the former contains only honey, and the latter only pollen. The red or soft maple is a valuable honey plant, blooming long before its leaves appear. In April many wild flowers bloom, that contain both honey and pollen; these are nearly all members of the crowfoot family. Early in May the hard maple opens its buds, and is very productive in honey. We can hardly classify it among the honey plants of this region, for the tree is very scarce in our forests. About the 15th of May the apple, cherry and wild plum blossom. They contain considerable nectar of fine flavor, and are thronged with bees from the first opening bud till the last. About the same time the dandelion opens its beautiful yellow tints, and where it is found the busy bee may be seen. One of the best honey plants of May is the wild crabapple, the honey being of the finest flavor, and, from a careful observation, I am satisfied that the blossom contains as much honey as the basswood. So fragrant are the flowers of the crabapple, that the air is scented for a great distance. As a honey plant, I would advise its cultivation. There are many wild flowers that bloom in May that are frequently visited by bees, but time and space will not permit me to name them.

The honey plants of June are more abundant. The white or Dutch clover opens its deep hidden tubes early in June, and is in continual bloom for about six weeks. It is well adapted to the soil of Western Wisconsin, very little having ever been sown; it is at home alike on the alluvial bottom land or on the poorest clay soil. The sumac is a valuable honey plant. The bees can gather honey from it as long as the dew remains on its blossoms. Borage is one of the cultivated honey plants, and is very valuable for the reason that bees work on it in rainy weather, when nearly all other plants have no honey it blooms from June till frost. Alder berry, like sumac, only has honey early in the morning, and the honey is not of the finest quality. Horehound (Salvia officinalis), is one of the mint family. This is one of the few wild honey plants which have a commercial value. The honey is very fine, but retains slightly the taste of the plant.

Early in July the basswood opens its first buds; and blossoms continuously for two weeks. The appearance and flavor of the honey certainly cannot be surpassed. The basswood, so greatly admired by the ancients, will still con-

tinue to win the admiration of all ardent lovers of nature. Indian and sweet corn contain considerable pollen, and the latter some honey, which is very thin and of poor flavor. I cannot say with certainty that bees gather honey from Indian corn, but think they do. Catnip is rich in honey, and blooms from July till frost. Very little of the plant is grown for honey, as it is a weed which is hard to destroy.

In August the cultivated buckwheat blossoms, if sown from the 20th of June to the 1st of July. The honey from buckwheat is very dark, and is of an inferior quality; the flowers are rich with nectar. About the 15th of August the bergamot opens its beautiful yellow corollas, ready to let the bee sip its nectar. Bergamot is only adapted to sandy soil. Goldenrod, belonging to the Solidagoes, is one of the latest honey plants of the season, and can be found growing on all soils—in the marshes, on the prairies, and on the uplands. The honey is of fine quality, and in flavor cannot be excelled. The asters bloom about the same time, and are found growing more abundantly in the marshes and along the water-courses.

This makes up the list of most of the honey plants of Western Wisconsin that I am most familiar with. Not being an expert in botany, I presume errors have been made in this essay; but it was not my object to give you the botanical names and descriptions, but merely a simple description of the honey plants, that beginners may be guided.

LaCrosse, Wis., Sept., 1880.

Western Illinois and Eastern Iowa.

Various adverse circumstances, which were unavoidable, tended to make our eighth semi-annual meeting a very light one, among which are prominent the universal failure of the honey crop this year, the great political campaign being so near its close, and many members who would have been present, but, at the last hour almost, were detained at home by other pressing business. Nevertheless, those who were at New Boston on the 14th and 15th of October, 1880, enjoyed themselves very much, and the discussions, though limited as to debaters, were as animated as of yore. Several essays were read which drew out lively discussions.

The meeting was called to order by the President, L. H. Scudder, who is ever prompt and at his post. Letters were received from many of the members regretting their inability to be present and wishing the meeting all success.

The first question very naturally taken up was

Why the Small Crop of Honey this Year?

All seemed willing to give a theory, but no satisfactory conclusions were reached, except it be in the mind of each individual.

Jas. A. Simpson. I would like to see that question answered. It is the first time in my experience when all things were favorable; it seemed as though every condition was right for the secretion of honey, and yet no honey flowed. I always thought that when plants blossomed and produced seed, we ought to get honey from them. But this season was an exception; bees were starving in our hives when white clover was in bloom. I saw a bee go to 67 heads of white clover, and yet she had no load. The heads were short, but the bees accumulated nothing.

E. D. Godfrey. I think the bees were about as much disgusted as you

Jas. A. Simpson. They seemed so.

D. D. Palmer. The last two seasons were very short crops; this year we get none. From our 201 colonies I only obtained 10 lbs. Some others report large crops.

E. D. Godfrey. Messrs. Dadant write me they hauled 115 colonies to the river bottoms to get 25 lbs. average to the colony. The only reason why they did not get 10,000 lbs. was they did not go soon enough. I rather attribute our failure to get honey in the fall to wet weather; it was very warm, and the rain washed all the honey from the flowers; I obtained 110 sections of comb honey, but had 1,000 lbs. of extracted from 25 colonies.

Jas. A. Simpson. I have heard it said many times by wise men, who thought they knew it all at least, that when honey-dews were prevalent, we can look for no honey from flowers.

E. D. Godfrey. I must say I am very much puzzled over this subject.

L. H. Scudder. Yes, it is so all over the country; there seemed to be no honey in any of the flowers. Some years ago I obtained 200 or 300 lbs. of honey-dew honey; I sent it to Chicago, expecting, of course, slow sale for it, but the result was I obtained 25c. per lb. for it. That was 8 or 9 years ago, and right following it we had a good yield in the fall. I take one or two old-liners and put 6-lb. boxes on them, and sections on others, to see if there is any difference in the using; it looks as though the separators keep the bees out of the boxes; have had some colonies fill several cases full of sections when none was put in the 6-lb. boxes. So it

shows that the blame of no honey is not in the separators.

D. D. Palmer. I will give my theory, but may change my mind next year. There are many conditions needed to the secretion of honey. All are aware that a warm, wet atmosphere is very favorable to the production of honey. For my part, I want one condition above all others, and that is warm nights. Just look back over this season, and also last year; we had many hot days, but very few hot nights. Year before last we had hot nights, and we obtained a good yield of honey. No matter if we do have warm days, if the nights are cold we get but little honey, for what is secreted in the day time is evaporated by the sun about as fast as it comes; while it does not evaporate at all at night, and the bees get it early in the forenoon.

L. H. Scudder. The reports this year show that nearly all of the honey has been obtained from basswood or linden.

Jas. A. Simpson. I have seen honey secreted when the nights were quite cool, and when warm nights came no honey followed. It must be something else; we have other crops in abundance.

D. D. Palmer. Yes; we had warm nights and bees obtained honey. They showed it by roaring the next night, but as soon as cool nights came they quit roaring.

L. H. Scudder. I have long believed that such was the case; but whole sections of country South, and in the great honey regions of California, have cold nights, yet I have always felt we must have warm nights for honey. I have had a good run of honey after the first frost came.

Jas. A. Simpson. We all know that when the ground is wet we have a more uniform temperature day and night; then we may expect vegetation to grow best; the change is much quicker at night in very dry weather; I think the ground when wet and hot is in the best condition for honey.

D. D. Palmer. The coast of California has been spoken of. There are no bee-keepers in Oregon and Washington Territory; there is no honey there. I think they must have warm nights to get honey in California, if looked at closely.

L. H. Scudder. In Southern California they lay their short crop of honey, and other crops, to the drouth.

Jas. A. Simpson. Does white clover raised from seed, yield honey the first year? There is a large extent of country covered with white clover near me. Old clover gave us no honey. Many thought clover did not yield honey the first year.

Is it best to put on Separators at first?

L. H. Scudder. At first, by all means. It is just as well to put them on then, and saves a great deal of work and trouble. This was concurred in by several members present.

Some discussion was had in regard to bees having enough to carry them through the coming winter. From reports given, it was thought those on the river bottoms would have an abundance; but back of a line 3 or 4 miles from the river, bees would have to be fed, and much loss is expected. Many old queens will be kept over that in a good season would have been superseded.

Comb Foundation.

Jas. A. Simpson. I believe there is too much purifying of the wax in comb foundation; they try to get it too pure; in the process too much of the natural oil is taken out to make it of good substance. I had a quantity of comb foundation which was very dark; the bees worked it out into very white comb; I obtained some more that was pretty as a picture. The bees would not touch it as long as any dark foundation was left in the hive. I could see the foundation in the comb made of the light article, but not so with the dark. I am satisfied foundation will be better with less heating and purifying. Newer wax is better.

E. D. Godfrey. I would ask Mr. Simpson if his bees change the color of the foundation?

Jas. A. Simpson. I think that some coloring matter must be used in the foundation.

E. D. Godfrey. I can tell every time where the foundation begins and where it ends. The bees do not change it, but the comb below the foundation changes with the honey that is put into it. I saw some on which letters had been painted, which was drawn out so it could be read, of the same color as when the bees began it.

L. H. Scudder. I asked Mr. Dadant his method of making wax. He said he did not use any chemicals; the only secret was in cooling it slowly. He cools his wax in a large tank, packed so as to cool very slowly.

Jas. A. Simpson. I cannot account for it; but the dark foundation was worked out first. I think every time wax is heated it becomes harder.

D. D. Palmer. Do not use iron vessels to melt wax in, or it will be dark; but use tin or other vessels.

Jas. A. Simpson. To cool wax, set it in the stove oven, and it will cool gradually as the stove cools, and the sediment will go the bottom much more readily.

What Business to Connect with Bee-Keeping.

D. D. Palmer. I have tried fruit-raising quite successfully. In getting surplus honey, in some neighborhoods, there will be none in the spring; in others, none in the summer or fall. I have found that a good crop of raspberries came very handy to sell when white clover fails, as it did this year. Fruit raising fills in these gaps.

Will. M. Kellogg. I would also add vegetables and poultry.

Jas. A. Simpson. The best thing a man can do at such times is to run for office, it will enliven his ideas and send him back to his bees more contentedly. Very many have good crops this year; I had a good crop of grapes, but they did not take the place of honey.

E. D. Godfrey. I would keep a good lot of bees, but not depend on them for a living. I aim to follow a business aside from bee-keeping to make my living.

D. D. Palmer. I have not made enough to square up accounts on my place, aside from my bees, and my other business has not paid well either.

E. D. Godfrey. Do you not think you have too many bees (over 200 colonies)?

D. D. Palmer. No; I do not.

E. D. Godfrey. It is a question not easily answered. A man must follow that business which he is most capable tor.

L. H. Scudder. I can see great trouble in this. Mr. Palmer is depending mainly on his bees; in case his bees fail him he has no other business that will supply that loss.

E. D. Godfrey. Get a business that will furnish a support, and run bees as an extra.

John Hoover. I would advise the keeping of sheep, which can be done easily in many places.

Mr. Holcomb. Our family has been in the habit of keeping sheep and bees, and we find it works well. I think they can be run together very well.

L. H. Scudder. If a man has extra land for stock to run on, he can keep bees and stock too. We keep stock, but have other land than our own for it to run on.

Is there Danger of Over-Stocking?

Jas. A. Simpson. I firmly believe there is. I think if I had had many less this season I would have done better. I know a man who last spring had a barrel of bees. They stored about 16 lbs. of honey, and built the comb, too, and had no better chance than mine. I have known also where only a few colonies were kept, they done much better than mine. Such a season as this does not often occur. I have known seasons when the country could not be over-stocked with bees. I think 40 colonies in the spring is plenty to begin with.

D. D. Palmer. How can we tell when we are going to have too many bees for a season?

Jas. A. Simpson. By watching the way in which the bees are succeeding.

D. D. Palmer. We can test it by watching how our bees build comb in contrast to a smaller number of colonies; if they do better, we can conclude we are over-stocked.

Will. M. Kellogg. That will do, if the bees are all under one management. One man may get more honey than another by his better management, and the strain of bees has a great deal to do with it.

L. H. Scudder. But this year one or two colonies, in isolated places, done no better than large lots.

D. D. Palmer. In South America several thousand colonies are kept in one locality. If they could run so many were they over-stocked?

E. D. Godfrey. Yes; they run themselves out. We hear no more of them.

John Hoover. Is there not much difference in the kind of bees kept? I do not think we obtained any section honey this year except from hybrids.

Much discussion was had *pro* and *con* in regard to sending delegates to Europe to instruct their people to keep bees in a better way, thereby causing them to produce more honey to compete with our own honey. Some were opposed to such a course, saying it would injure our foreign honey markets; others favored it, claiming it would increase our sales, as the more honey was advertised the more it would be bought.

Extracting Honey after the Season is over.

E. D. Godfrey. I know one man who has extracted from his bees since the season was over, and I think he will wish he had not before spring comes.

Jas. A. Simpson. I extracted from the top stories of 5 colonies, the frames below were full of brood, the honey-flow ceased, and I soon had 3 dead colonies, and this, too, when all conditions were favorable.

Will. M. Kellogg. Mr. Simpson's case does not apply here at all. I have always made it a practice to extract from my bees after the season was over, and never had any bad results follow but once; that time I returned the empty combs in the fall; the bees bred very early in the empty combs, which were sticky with honey, and came out of the cellar boiling over with bees; wet weather kept them from the spring bloom,

and I had to feed. I use a large frame and extract from all but well-filled combs, put in a division board, and pack down one side and on top with dry straw, and my bees winter better than they would on 10 or 12 combs of honey.

E. D. Godfrey exhibited and explained his chaff hive—a modification of the Shuck Universal. It has 3 sides double-walled, with about 2 or 3 inches of space filled with chaff, the inner walls being very thin, perforated boards. The 4th side is movable, and a division board is used, made of a square frame with perforated board and paper on each side, which is closed up to the bees according to the size of the colony, and in the fall the space at the side and on top is filled with chaff.

On the evening of Oct. 14th (but one day's session was held), the Society had an enjoyable sociable at the residence of Mr. L. Antrim. There many questions were discussed, but in such shape as to make it impossible to report them. L. H. Scudder read the amusing story of the "Cat and the Bees." Jas. A. Simpson related an account of a coon's fight with bees, which ended by the coon attacking and biting his master. George Bischoff told an amusing story of a dog and some bees having a squabble. Many other anecdotes were given which kept the fun going.

A basket picnic dinner and supper were given by the family of the President—Mr. L. H. Scudder—to the visiting members, in the church where the meeting was held.

Among the articles exhibited were: A chaff hive, by E. D. Godfrey, Red Oak, Iowa; several fine samples of comb foundation, by J. Van Deusen & Sons, Sprout Brook, N. Y.., queen cages from T. O. Peet, Canajoharie, N. Y., and some Cyprian bees from J. S. Hughes, Mt. Zion, Ill., who kindly sent them for inspection. Though the members looked at them closely, no one could see any difference between them and our brightest Italians. If there is a difference in looks, we failed to see it. The various bee papers were represented by sample copies.

The old officers were re-elected for the coming year, to wit: L. H. Scudder, President, New Boston, Ill.; E. D. Godfrey, Red Oak, Iowa, and Mrs. Z. Hollingsworth, Montrose, Iowa, Vice Presidents; Will. M. Kellogg, Oneida, Ill., Secretary and Treasurer. It was decided not to hold any spring meeting.

Adjourned to meet at New Boston, Ill., some time in the fall of 1881, at the call of the executive committee.

L. H. SCUDDER, *Pres.*
WILL. M. KELLOGG, *Sec.*, Oneida, Ill.

From the Lansing Republican.

Central Michigan Convention.

The Central Michigan Bee-keepers' Convention was held in the pioneer rooms of the new capitol, at Lansing, Oct. 7th, 1880; about 35 persons being present.

The season has been unfavorable for bee-keeping, the yield of honey being about half that obtained in a favorable season.

President Ashworth was absent, and W. K. Cole, of Howell, presided. The principal subject discussed was "foul brood." Prof. Cook warned people not to buy bees from a distance, as this disease is raging in adjoining counties.

The topic of "wintering" was discussed by Messrs. Harper, of Mason; Waldo, of Grand Ledge; and L. B. Baker, of Lansing.

Considerable time was taken up in inquiring about "Cyprian queens." Prof. Cook gave some interesting statements of his "Holy queen," as it is called, from the river Jordan.

The relative merits of chaff hives and cellar wintering were considered by G. L. Perry and Mrs. L. B. Baker, the former favoring the chaff hive, and Mrs. Baker cellar wintering. This lady has been very successful, never having lost a colony by the cellar method.

In comparing the merits of different hives, it was agreed that the one known as the "Baker," leads all others for simplicity, convenience and general utility.

The next meeting will be held in the pioneer rooms, May 5, 1881.

☞ The Michigan State Bee Keepers' Association will hold its annual session at Lansing, on Wednesday, December 8, 1880.

☞ The annual meeting of the North-Western Illinois and South-Western Wisconsin Bee-Keepers' Association will be held in Freeport, Ill., on the second Tuesday in January. The meeting will last two days. At the evening session on Tuesday, prominent practical bee-keepers are expected to speak. All persons interested in the production of one of the most delicious sweets are invited to attend.

JONATHAN STEWART, *Sec.*

☞ The Indiana Bee-Keepers' Association will meet in annual session on Thursday and Friday, Jan. 13 and 14, 1881. FRANK L. DAUGHERTY, *Sec.*

Letter Drawer.

Best Honey Gatherers.—This has been a poor season for honey here. We had a splendid run of basswood; I think the best I ever saw, but that was all we obtained this season. Colonies that were in condition to take advantage of the basswood, gave a fair yield. I had a few colonies of Italians and hybrids that gave 100 lbs. of extracted to the colony, during basswood bloom. I see that Mr. W. H. Gibbs, Clinton, Mass., says that from 23 colonies of black bees he obtained 1,015 lbs., while from 37 colonies of Italians and hybrids only 491 lbs. of honey, making a very favorable showing for the natives. Such has not been my experience. I have had both blacks, Italians and hybrids for the last 9 years, side by side, and the Italians and hybrids have invariably been the best honey gatherers. I weighed one colony of hybrids (very bright) for 8 or 10 days during basswood bloom, to see what it would do; it gained from 5½ lbs. to 14 lbs. a day. On Sunday, June 27, it gained 14 lbs. While on the same day a strong colony of natives by its side, gained 6 lbs.; no guess work, actual weight. They have always done in about the same proportion for me, except when honey is scarce, then the Italians and hybrids will make a living and store some honey, when the natives will do nothing but use up the stores on hand or starve to death. I raise no queens to sell.

L. G. Purvis.

Hartford, Iowa, Oct. 30, 1880.

Melilot Clover.—I had 50 colonies of bees last spring in good condition. I fed flour early; they thrived on fruit blossoms and I expected a good crop of honey, but alas, how they failed. In the last of May and June I had to feed 125 lbs. of honey to keep them from starving. I had 10 frames full of brood and for 6 or 8 weeks the hives were full of bees. On opening a hive, not 2 lbs. of honey were to be found. I shall have to agree with the friend that writes so much on over-stocking, for there is about 200 colonies within 2 miles of my apiary, and nearly all are in the same condition. Within 4 miles, where there were but few bees, about 300 colonies did well, and I have to go there to get honey to put in my hives, as we use the same hives. I have now about 70 colonies. I have kept bees nearly 50 years and always thought when they swarmed the first time there would not be a queen under 8 or 9 days, but I had two occurrences to the contrary; a swarm with the old queen came out and my wife went to the hive to get a frame of brood for the swarm and heard the queen piping and told me so, when I came home at night. I told her she must be mistaken, but upon examination, I found brood in all stages from the egg first laid, to the hatching bees by the thousand. This was in August in buckwheat time. I had six or seven natural swarms and some of them that I have not fed 2 lbs. of honey. I shall put in frames of honey from the country next week and I expect to winter them, hoping for a better season. I have one or two thousand small sweet clover roots. These I shall send all over the vicinity, and sow 7 to 10 quarts of seed, and it will get scattered pretty well. Oh, how the bees thrived on it this year, when they could find it. A. Griffes.

Albion, Mich., Oct. 8, 1880.

Heavy Losses.—My bees have done well this summer. They go into winter quarters in good condition. There are only three bee-keepers left about here, out of about thirty last year; they say it does not pay. I lost more than any one else because I had more to lose. My loss was $220 at a low estimate. We had a very unfavorable winter last year. The coast is clear now for my bees and I have sown considerable white clover this year. H. Berney.

Custar, Mich., Nov. 8, 1880.

The National Convention.—The Bee Journal came to hand very early, of this I was glad for I was anxious to see the report of the National Convention, at Cincinnati. It gave me much pleasure to see the enthusiasm with which the members were working. I read with great interest Mr. A. J. King's essay on "the Bee-keeping Industry," Dr. J. P. H. Brown's address on "Queens," and also with no less interest that of the editor of the Bee Journal on the "Improved Race of Bees." In fact all the productions were so practical and to the point that every bee-keeper could read them with interest and profit. I must congratulate the Society with its success. It would have given me great pleasure to have been present at the Convention, but it came in such a busy season that it was impossible for me to leave home. I hope the Society will always meet in the same good spirit and that the future will crown it with success and a golden harvest. There is one thing I notice and feel it my duty to mention just here. The committee on nomination of officers has appointed as vice-president

for Maryland, J. M. Valentine, of Double Pipe Creek. I am the only Valentine at Double Pipe Creek, and I believe in the County or State, who keeps a large stock of bees and is making a business of apiculture. I mention this that there may be no mis-mailing and for the good of the Society.

S. VALENTINE.

Double Pipe Creek, Md., Nov. 9, 1880.

[This was an error in the initials and is duly corrected now. Thanks to Mr. Valentine for calling our attention to it.—ED.]

Prairie Hay for Winter Packing.—I obtained no surplus honey this year. I am now doubling up weak colonies for winter, and feeding dissolved sugar. I am, however, not discouraged with one poor season. I have no doubt but that we shall have a good season next year, and that it will pay to care for the bees this fall. Prairie hay is the best protection I have tried to prevent chilling the bees. I enclose my subscription for the Weekly BEE JOURNAL as the best evidence that I appreciate it, and am unwilling to do without it.

H. S. HEATH, M. D.

Muscotah, Kansas, Nov. 8, 1880.

Short Crop.—I had 85 colonies in the spring; I have obtained 4,500 lbs. of honey in the comb. It is a short crop. Three years ago I had 5 tons from 110 colonies. I have been taking the BEE JOURNAL 10 years. J. M. BENNETT.

Waterloo, Iowa, Oct. 29, 1880.

A Visit.—In September I made a long-contemplated visit to Douglas county, Ill., calling on the Rev. A. Salisbury, and he surprised me by opening hive after hive, early in the morning, without the use of a smoker. He has young Cyprian queens, now laying, bred from a Cyprian queen of Mr. Jones' importation. On my way home, I visited Chicago, and had a good chat with the genial editor of the BEE JOURNAL, and also with Mr. Cottinberry. I arrived home abundantly pleased with my visit.

J. V. CALDWELL.

Cambridge, Ill., Oct. 12, 1880.

A Long-Felt Want.—Allow me to congratulate you upon your contemplated undertaking, viz: the publication of the Weekly BEE JOURNAL. Such a JOURNAL, if properly managed, will supply a long-felt want, and I am sure would meet with a success.

GEO. W. HOUSE.

Fayetteville, N. Y., Nov. 13, 1880.

Size of Entrance.—Please state in the AMERICAN BEE JOURNAL the proper sized opening to a hive, that will allow free egress and ingress to workers, but prevent all possible escape of drones or a laying queen. Mr. Garlick gives 5-32 of an inch—is not that too small?

W. E. FLOWER.

Shoemakertown, Pa., Oct. 18, 1880.

[Five thirty-seconds of an inch will allow ingress and egress to the worker bees, but such a small entrance is quite detrimental to the welfare of the colony in the working season. Often quite a quantity of pollen may be noticed at the entrance of such a hive, caused by the bees scraping themselves while entering with their load. Every plan suggested to prevent the queen and drones from going out and in with the workers is objectionable on this account.—ED.]

Bees have not done Well.—The BEE JOURNAL has been a welcome visitor, I have learned much from it. I am glad it is to be published weekly next year. My bees have not done well the past season; it has been too wet and we have had too many north-west winds. I have now only 9 colonies, and I think of trying chaff packing for winter. Success to the Weekly BEE JOURNAL.

F. W. BURTNETTE.

Glass River, Mich., Nov. 5, 1880.

A Prediction for Next Year.—I think this has been the poorest season for bees, in this part of the country, that we have ever experienced. I had about 110 colonies of bees on the first day of May. By putting together and feeding, I have reduced them to 103 colonies. It will take about 150 lbs. of sugar and 50 lbs. of honey to get them ready for winter. By estimate, we have 245 lbs. of comb and 1,049 lbs. of extracted honey. I think our bees have done as well or better than other bees around here. My crop is mostly disposed of at 15 and 20c. per lb. We must make up in price to partly compensate for the loss in quantity. I hear of some quite extensive bee-keepers within about 20 miles, that extracted during linden bloom, who will now have to feed it back or let their bees starve. I think bees gathered about half enough this fall to winter on. We had two short harvests: apple and linden. White clover was generally winter-killed. Pastures nearly dried up during July and the first part of August, so that people had to feed their cattle. We have had some heavy rains

since that time, and the young clover has grown up nicely, from which I predict a good season for bees in these parts next year. Perhaps at some future time I may give my mode of management and preparing bees for winter.

W. C. NUTT.

Otley, Iowa, Oct. 21, 1880.

Highly Pleased.—I enclose my subscription for the Weekly BEE JOURNAL for 1881, and I am highly pleased with the proposed "new departure."

W. A. HORTON.

Macy, Ind., Nov. 6, 1880.

Packed with Chaff.—I have packed 33 colonies with chaff in boxes on the summer stands. Three for experiment are supplied with upper stories (Simplicity) filled with chaff. All are covered with pieces of rag carpet over the Novice cushion, with the cover removed.

J. CHAPMAN.

Home, Mich., Nov. 6, 1880.

A Fair Crop.—Our honey crop is over for this season, and I have my bees snugly prepared, on their summer stands, for going through the winter. I had what Dakota apiarists would call a fair crop. From 11 colonies in the spring I increased, by natural swarming to 20, and obtained 1,060 lbs. of comb and extracted honey, of splendid quality. I am finding a ready market at home for it at 15 and 20c. per lb.

W. M. VINSON.

Elk Point, Dakota, Oct. 19, 1880.

Bee Pasturage.—The season's work is now over, and I can make a report without guessing at it. I have 50 lbs. of box honey for each colony that I started with in the spring, and half as many swarms as colonies. This I call good for this locality, although I believe I can do 20 per cent. better another year. My bees suffered badly from being brought out of the cellar, in the spring, on the evening before a cold, damp day. They came out of the hives, and chilled before they could get back. I see the subject of honey plants is attracting much attention just now. From what I read, I must think that no one plant is best for all sections of the country and all seasons. Cleome or Rocky Mountain bee plant has done exceedingly well in this vicinity this year. It seemed to be literally alive with bees from morning till night, all the while it was in bloom. If it does as well another year, nearly every bee-keeper will sow some of it.

F. WILCOX.

Mauston, Wis., Oct. 15, 1880.

Appreciative.—Hurrah for the Weekly BEE JOURNAL! This is a progressive age, and we are glad to see that the editor of our favorite JOURNAL has the spirit of progression, and is determined to place it upon the highest pinnacle among the bee literature of the day. With pleasure I shall hail its coming. I would suggest, however, that it be published in its present form, as being more convenient for binding for future reference; with double its present matter, it would make a book of convenient size and form, as with its present size I have two volumes bound in one book. I have been a subscriber and constant reader of the AMERICAN BEE JOURNAL for more than ten years, and I have every volume complete that has been published except one number, and have most of them bound. I would not take $100 for them. Long live the AMERICAN BEE JOURNAL.

W. D. WRIGHT.

Knowersville, N. Y., Nov. 3, 1880.

[We would much prefer keeping the BEE JOURNAL its present shape, but many things conspire to make it impracticable. First, we have aimed to greatly increase the amount of reading matter, and give it weekly, with but a very trifling increase in price, in order to accommodate our correspondents and meet the necessities of the thousands who cannot afford a high-priced JOURNAL. Second, the additional work in folding and stitching the JOURNAL each week (in addition to its expense), would cause delays in the regularity of our issue which would give dissatisfaction to our readers and be unendurable to its publisher. And lastly, we expect to give a weekly which, at the end of the year, when neatly bound, will be as attractive in appearance and convenient for reference, as in the old form, and that all may feel they have received more than their money's worth.—ED.]

Never failed to obtain a good crop.—Many have failed to make it profitable to keep bees, getting no surplus honey. I have kept bees here 17 years and always have a good yield of honey, and I think this is by all means the best honey location in our country, if not in the world. And my reasons are these, I am located on the north edge of a rich farming district, where within 4 miles there are over 3,000 bearing apple trees, plums, cherries, &c., in abundance.

On the north is an immense old lumber region covered with wild cherries, plums, basswood, willows, elm, maples, wild berries, in immense quantities, white clover from spring until fall, and thousands of other wild honey producing plants, so that the bees find business from the time the snow leaves in the spring, until it covers the ground in the fall. L. MARTIN.

Hesperia, Mich., Nov. 10, 1880.

Good Honey Crop.—The past has been a good season for bees and honey in Southwestern Iowa. I have had swarms issue, and gather from 75 to 85 lbs. of surplus honey in the combs. Through August and September the colonies were in splendid condition and strong in numbers. I use the Kretchmer hive. I wish the BEE JOURNAL success.

S. C. SMITH.

Whitley's Grove, Iowa, Oct. 24, 1880.

Late Breeding.—My Italians have a little honey to spare, but the blacks, as a rule, are not half supplied for winter. The Italians gave some surplus in the early part of the season. The queens stopped laying about 10 days ago, and I think they will do as they did in 1877; then they stored enough in October to winter on, and reared two lots of brood in October and November, and went through the winter and spring in good order. H. L. JEFFREY.

Woodbury, Conn., Oct. 4, 1880.

Bees in New York, etc.—Another bee season has passed, with its pleasures and disappointments. I commenced the season with 22 colonies in fair condition. My honey harvest was 168 lbs. of extracted, and 338 lbs. of comb or box honey, making in all 506 lbs.; this is 22 lbs. to the colony. I increased 15 colonies, making 37 in all. These are all packed now in chaff and dry leaves, on their summer stands. Bees are in good condition for winter. The price for honey has been from 8 to 12½c. per lb. for extracted, and 12½ to 15c. per lb. for box honey. I am very thankful that the BEE JOURNAL is to issue every week, and give us double the amount of reading matter during the year, and, without doubt, double the amount of knowledge; and those who keep but few colonies, and do not feel able to subscribe for the weekly, can enrich their minds with bee knowledge for only 50c. a year. As far as I am concerned, I must have the full documents on the bee, for to the AMERICAN BEE JOURNAL I have to credit all my success. Please find enclosed $2 for the weekly for 1881. In the November number I find a pen-picture drawn by the Cincinnati *Gazette* of the editor of the AMERICAN BEE JOURNAL; how would it be, if you would give your readers in the first issue in January, 1881, a photographic picture of yourself?

WM. BOLLING.

Dunkirk, N. Y., Nov. 13, 1880.

Spider Plant, etc.—I started my seeds in the hot-bed, and had no trouble whatever in making them grow. Mine commenced to blossom about the 4th of July, and continued until frost killed them. All the reports about the large yield of honey from them are true, so far as my experience goes; but I doubt very much the *pay* part of raising any crop for honey alone, that has to be set out every year, and hoed and cultivated as thoroughly as the spider plant seems to require. If it would seed itself year after year, as the sweet clover does, I would not hesitate to pronounce it one of the best honey plants I know of. I see by the bee papers that in a great many sections buckwheat is not at all reliable as a honey-yielder; but in this locality it has only failed once in the last 10 years, and I shall depend mostly on that for honey from cultivated crops, until something better is found. I expect to experiment more or less this coming year with sweet clover, spider and Simpson plants, but shall certainly discard any or all of them that are not re-seeders.

O. O. POPPLETON.

Williamstown, Iowa, Nov. 15, 1880.

[We heartily commend sweet clover to *every* bee-keeper. Its easy cultivation, ability to withstand drouth and wet, long-blooming season, self-seeding nature, and its beautiful, rich honey, will certainly make it a profitable favorite with all who give it a fair trial.—ED.]

Honey Crop.—Since leaving home Aug. 23d, I have traveled through Illinois, Michigan and Indiana, and find that the honey crop is very short. Our train being side-tracked near Mr. Heddon's branch apiary, I looked over it and never saw bees doing better. Goldenrod was in bloom, and the bees were enjoying it exceedingly. The valley of the Mississippi river generally, this year, has failed to yield honey, and many bees will starve. Some are selling their bees at nominal figures. In Central Iowa bees have done nicely; ours have not done much, though I have fed a little all the time to keep them in good order. A. D. DILLY.

Des Moines, Iowa, Sept. 20, 1880.

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